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LICHEN PLANUS SCLEROSUS ET ATROPHICUS (HALLOPEAU)

A REPORT OF SIX CASES (FIVE NEW) WITH A REVIEW OF THE LITERATURE *

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The literature of this subject betrays some confusion as to what is meant by the term "lichen planus sclerosus et atrophicus."

Hallopeau first described this condition, named it "lichen planus atrophicus," and later added the word "sclerosus" to the title. Crocker added the word "morpheacus" on account of the resemblance in certain instances to morphea. That the disease resembles morphea to a marked degree is evidenced in the cases of Stowers, Allen, Schamburg, and others. These patients, when exhibited before dermatologic societies, were considered by some to be instances of lichen planus sclerosus et atrophicus, while others classed them as morphea.

There are some cases recorded under this title that appear to be of the ordinary lichen planus type, exhibiting subsequent atrophy of papules, leaving white atrophic spots. These are not examples of the type to be described here.

In 1887 Hallopeau[1] described the first case, and subsequently added three, one in 1889,[2] another in 1896,[3] and a fourth in 1898.[4] The histopathology of Hallopeau's first case was studied and reported by Darier; and subsequent observers have confirmed the original clinical and histologic descriptions of these two authors.

In 1892 Darier[5] fully described a similar case of his own.

In 1900 Crocker[6] transcribed notes taken by himself of a case presented by Morrant Baker before the London Dermatological Society, in 1882. In a chronologic order other recorded cases are the following: 1894, Brault[7] and Pawlow;[8] 1895, Gaucher, Barbe and Balli,[9] and Schwimmer[10]; 1896, Stowers,[11] Vinrace[12]; 1898, Vollmer[13]; 1899, Orbeck[14]; 1900, Zarubin[15]; 1903, Reiss,[16] and Wechselmann[17]; 1905, Allen[18]; 1906, von Zumbusch[19]; 1907, Montgomery and Ormsby,[20] Schamberg[21]; 1909, Hoffman,[22] Riecke,[23] Millian,[24] and Csillag.[25] The majority of the above cases are typical; the exceptions will be discussed later.

SYMPTOM-COMPLEX

The symptom-complex constituting the disorder as originally outlined by Hallopeau and confirmed by numerous observations since, includes the following:

The major portion of patients have been women varying in age from 30 to 63 years. They have usually been of nervous temperament. No other important fact has been demonstrated relative to the etiology. The sites of predilection are the upper portions of the trunk, about the breasts, over the clavicles, extending over the shoulders and downward over the upper part of the back, also the neck, axillæ, and forearms. Lesions also have been noted over the abdomen, on the thighs, about the vulva; and coincident lesions were noted by Hallopeau on the buccal mucosa, and in one case in this report, on the vaginal mucosa. The temple was affected in one of the atypical cases. (Dubreuilh and Petges).[26]

The characteristic lesion is an irregular, often polygonal, flat-topped, white papule. In the case of Morrant Baker, some conical papules were noted. The white

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* Read in the Section on Dermatology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Hallopeau: Lichen Planus Atrophicus, Union méd., 1887; abstract by Thibierge, Ann. de dermat. et de syph., 1887, Series 2, viii, 790.
2. Hallopeau: Lichen Planus Sclerosus, Ann. de dermat. et de syph., 1889, Series 2, x, 447.
3. Hallopeau: Lichen Planus Atrophicus: a New Case, Ann. de dermat. et de syph., 1896, Series 3, vii, 57.
4. Hallopeau: Lichen Planus Sclerosus; a New Case, Ann. de dermat. et de syph., 1898, Series 3, ix, 358.
5. Darier: Lichen Planus Sclerosus, Ann. de dermat. et de syph., 1892, Series 3, iii, 833.
6. Crocker: Lichen Planus; Its Variations, Relations and Imitations, British Jour. Dermat., 1900, xii, 421.
7. Brault, F.: Un cas de lichen plan symmétrique à forme scléreuse amplifiée, Ann. de dermat. et de syph., 1894, Series 3, v, 834.
8. Pawlow, T.: Ein Seltener Fall von Lichen sclerotic ruber atrophicus, abstr. in Arch. f. Dermat. u. Syph., 1895, xxxii, 423.
9. Gaucher, Barbe et Balli: Lichen plan atrophique pigmenté, Ann. de dermat. et de syph., 1895, Series 3, vi, 392.
10. Schwimmer, E.: Lichen ruber planus atrophicans, Arch. f. Dermat. u. Syph., 1895, xxxiii, 451.
11. Stowers: Tr. Third Internat. Cong. of Dermat., 1896, p. 906.
12. Vinrace: Tr. Third Internat. Cong. of Dermat., 1896, p. 906.
13. Vollmer, E.: Ein Fall von Lichen planus ruber mit linearer Hautatrophie, Dermat. Ztschr., 1898, v, 32.
14. Orbeck, W.: Lichen atrophicus und Vitiligo, Arch. f. Dermat. u. Syph., 1899, l, 393.
15. Zarubin: Lichen atrophicus, Arch. f. Dermat. u. Syph., 1900, li, 306.
16. Reiss, W.: Uber atrophische Formen des Lichen planus, Arch. f. Dermat. u. Syph., 1903, lxviii, 137.
17. Wechselmann: Lichen ruber atrophicans, Arch. f. Dermat. u. Syph., 1903, lxviii, 446; Ueber Lichen atrophicus und andere makulose atrophien der Haut, Arch. f. Dermat. u. Syph., 1904, cxxi, 333; Atrophoderma Erythematosa maculosa (Lichen planus atrophicus), Dermat. Ztschr., 1904, xi, 28.
18. Allen: A Case of Lichen Planus Atrophicus, Jour. Cutan. Dis., 1905, xxiii, 266.
19. Zumbusch, von: Lichen Albus, Arch. f. Dermat. u. Syph., 1905, lxxxii, 339.
20. Montgomery and Ormsby: White-Spot Disease (Morphea Guttata) and Lichen Planus Sclerosus et Atrophicus, Jour. Cutan. Dis., 1907, xxv, 1.
21. Schamberg: Lichen Atrophicus, Jour. Cutan. Dis., 1907, p. 578.
22. Hoffman, E.: Ueber einen mehrere Jahre hindurch beobachtetan Fall von Lichen Sclerosus, Ikon. Dermat., 1909, Fasc. iv, Tab. xxvii-xxxv.
23. Riecke, E.: Zur Kenntnis der Weissfleckenkrankheit, Arch. f. Dermat. u. Syph., 1909, xcix, 181.
24. Milian, M. Y.: Lichen plan atrophique on mieux leucodermie atrophique ponctuée, Bull. de la Soc. française de dermat. et de syph., 1909, No. 7, p. 279.
25. Csillag, J.: Dermatitis Lichenoides Chronica Atrophicans (Lichen Albus von Zumbusch), Ikon. Dermat., 1909, No. 4, Tab. xxxii-xxxv, p. 147.
26. Dubreuilh and Petges: Lichen planus atrophicus, Ann. de dermat. et de syph., 1907, Series 4, viii, 715. (A complete clinical report of a case with abstracts of seven other cases and a discussion of additional ones.)

color of lesions is striking and has been compared with that of ivory and mother-of-pearl. At times a distinct yellowish tinge is noted. The papules, as a rule, are firm to the touch, neither elevated nor depressed, but slight elevation may be present. They bend with the skin and when grouped may become wrinkled. As a rule, no areola is present, but at times a rosy or moderately pigmented zone surrounds the papule. They may be discrete or grouped and most cases present both types. When grouped to form plaques, the outline of the individual papules forming the plaques can be determined.

Each papule has on its shining, smooth surface from one to several (sometimes as many as twenty (Darier)) black or dark horny, comedo-like plugs, or minute pit-like depressions, which show the former site of the horny plugs. These elements are situated at the pilo-sebaceous or sweat-pore orifices, and are most important from the viewpoint of diagnosis. The wall of the pit-like depressions is of the same nature as the horny plug. The plaques vary in size up to several centimeters in diameter. They show on their surface the outlines of the primary papules containing the horny plugs, or exhibit minute depressions; and the whole plaque shows the peculiar shining white surface characteristic of the primary lesions. A linear arrangement of the papules

Fig. 1: Case 1.—Lichen planus sclerosus et atrophicus, showing discrete whitish papules and plaques with black horny points on the surface. Courtesy of *Jour. Cutan. Dis.*

is at times noted, similar to that seen in ordinary lichen ruber planus. There is, as a rule, no clinical sign of inflammation. The mode of development, as described by one of Hallopeau's patients, is as follows:

> A black, horny point, surrounded by a bright red areola, is first noted. New and similar points occur which, after some months, unite; then the horny plug falls and the plaque becomes white.

My observations have not been similar, as I have seen new lesions developing, and the earliest manifestation consists of a minute white papule at the beginning, with either a dark spine or a pit on the surface.

The lesions, both papules and plaques, are persistent, but after a variable time, either from treatment or spontaneously, they undergo resolution and leave a delicate, smooth, white, soft, atrophic area of the size and shape of the original lesion, whether it be a discrete papule or a larger plaque. In one patient seen two years after complete involution of the lesions the atrophic scars were still present. The subjective sensations vary. Itching is the rule, but it is usually moderate in grade. A pulling or drawing sensation is described by some patients, while in others no subjective sensations are present.

HISTOPATHOLOGY

The changes described originally by Darier in Hallopeau's case have been confirmed by many observers. The most important change noted is a sclerosis of the papillary and subpapillary layer of the corium. In general the resemblance in the histologic architecture between this condition and ordinary lichen planus is marked. The stratum corneum is thickened, as is also the stratum granulosum in most instances, while the rete is atrophied. The wavy line between the rete and the corium is straightened or obliterated. The entire upper portion of the corium shows marked collagenous hypertrophy. The collagen bundles are condensed and show less of the interlacing characteristics than usual. Very few connective tissue nuclei are present. The elastin is reduced in amount. A cellular infiltration is present, deeply in the corium, and moderately also about the vessels, glands and follicles. Horny plugs are described in the sweat-pores, extending into the ducts, and the latter show a condition of hyperkeratosis. Similar horny plugs have been described in connection with the pilo-sebaceous orifices.

From ordinary lichen planus this condition is distinguished by the presence of marked sclerosis in the upper part of the corium, and by deeper situation of the inflammatory process.

Fig. 2: Case 1.—Lichen planus sclerosus et atrophicus. Showing one plaque shown in Figure 1. Courtesy of *Jour. Cutan. Dis.*

DIAGNOSIS

The important point in differential diagnosis is to distinguish this disorder from morphea guttata or circumscribed scleroderma. Vitiligo and nevus anemicus[27] would cause no confusion. The so-called "white-spot disease" should be mentioned, but as the cases of this disorder are most, if not all, examples of circumscribed scleroderma, no further comment is necessary. The irregular or angular, flat, shining, white papule, having on its surface dark, horny plugs or minute depressions, is characteristic of lichen planus sclerosus. Circumscribed scleroderma is not characterized by papules, and the horny plugs or punctate depressions are absent. These facts hold true for the most minute spots, as well as for large plaques. Lichen ruber planus with atrophy is distinguished by the presence of the ordinary red papules, and usually by severe itching, the latter, in the disorder under consideration, being slight or absent. There are no white papules, but merely atrophic white areas, which are secondary to a former inflammatory process.

27. Stein, R.: Ueber Nævus anæmicus, Arch. f. Dermat. u. Syph., 1910, cl, 311. The author refers to the previously recorded cases of Vorner in 1906 and Fischer in 1909.

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SUMMARY OF RECORDED CASES

The majority of cases mentioned earlier in this article are pure examples of the Hallopeau type. A few only will be briefly discussed.

Von Zumbusch's case of "lichen albus" is classed here as belonging to the Hallopeau type.

Csillag's case of dermatitis lichenoides chronica atrophicans probably belongs here, as does also Millian's case of lichen planus atrophicus, for which he thought the best title would be "leukoderma with punctate atrophy."

Riecke's case of provisional "white-spot disease" practicaly fulfils the requirements of this group. On the other hand, the case of Dubreuilh and Petges (lichen planus atrophicus), that of Gaucher, Barbe and Balli (lichen planus atrophicus et pigmentosus), and that of Wechselmann, of atrophodermia erythematosa maculosa (lichen planus atrophicus), and Pringle's case (annular and atrophic lichen planus), are examples of lichen ruber planus associated with cutaneous atrophy.

The case of von Zumbusch, described by him as a new disorder and termed "lichen albus," clearly belongs to

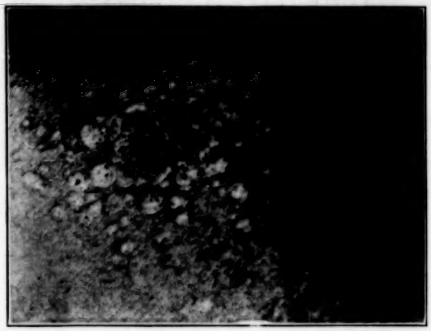

Fig. 3.; Case 1.—Lichen planus sclerosus et atrophicus. Showing a higher magnification of one area shown in Figures 1 and 2.

this group. The clinical picture and histologic findings were later reviewed by Hallopeau,[28] who believed that it should be classed as a case of lichen planus sclerosus.

Under the title "dermatitis lichenoides chronica atrophicus" Csillag describes a case which he classes as analogous with von Zumbusch's lichen albus. The clinical description of the lesions in this patient correspond in many particulars to those found in the cases of the subject under discussion, and is, therefore, placed provisionally in this group. Pale red mixed with chalky-white small areas and large plaques are described, on the surface of which are horny plugs connected with the pilo-sebaceous openings. The plate used for illustration is less characteristic than the written description.

Millian describes a case under the title "lichen planus atrophicus," or, better, "leukoderma with punctate atrophy," in which pin-head to pea-sized white lesions occurred. These were circular, shining, depressed, and showed a central punctate opening, as though they had been pricked with a pin. The large plaques were white, waxy and scaling. The earliest lesions did not present the punctate depressions. There were no subjective symptoms aside from some drawing sensations, and no ordinary lichen planus papules.

In the discussion of this case Darier stated that the disorder could be classed in one of four categories: lichen planus sclerosus, white-spot disease, "scleroderma *en carte de visite*" of Unna, or lichen albus. It appears, therefore, reasonable to place it in the group under discussion.

The most interesting report of all recent ones is that of Riecke. He gives a careful clinical and histologic analysis of a case, critically surveys the literature on the subject and finally places his case provisionally with two others—those of Westburg[29] and Johnston and Sherwell[30]—under the title of "white-spot disease." On account of the very close resemblance to lichen planus

Fig. 4.—Lichen ruber planus with associated subsequent atrophic whitish areas. Shown for comparison with lichen planus sclerosus.

sclerosus of his clinical and histologic description, as well as the plate used for illustration of the case, a brief abstract follows:

The patient was a woman, 50 years of age. The cutaneous disorder began ten years before with a lesion the size of a silver quarter over the pit of the stomach, preceded by itching. The lesions had extended rapidly during the previous year. On examination the following was noted: The lesions were located chiefly on the abdomen from the pit of the stomach to the inguinal folds with a few on the outer surface of the thighs. They were sago-grain to lentil-sized, well-defined, round, oval, irregular, and polygonal in shape, with many closely set and confluent plaques, largely on a level with the cutaneous surface. The smaller were slightly elevated, but,

28. Hallopeau: The Nature of Lichen Albus of von Zumbusch, Bull. de la Soc. Française d. dermat., 1907-08, p. 106.

29. Westburg: Monatsh. f. prakt. Dermat., 1901, xxxiii, p. 355.
30. Johnston and Sherwell: Jour. Cutan. Dis., 1903, xxi, 302.

on the whole, they were neither elevated nor depressed. They were not palpable and presented a markedly white luster. Each had a central punctate depression resembling a comedo. The smaller were smooth and showed no sign of inflammation. In the center of an older area some color, red or reddish-brown, was noted. In some areas a thin brownish-red crust covered the lesion, but, as a rule, this was surrounded by an alabaster-white ring. In some of the areas was a white lesion surrounded by a red halo. By confluence nail-sized plaques were formed.

Histologically, the stratum corneum was thickened; the rete thinner than normal, and the wavy line between the epidermis and the corium was largely obliterated. The connective tissue of the corium was increased in amount and presented few nuclei in its bundles. A cellular infiltration was noted deeply and at the periphery of the area. Vacuoles and lacunæ were noted between the corium and epidermis, which the author deemed an important finding. The elastin that was present was normal. Horny masses were present in the hair follicles, extending as far as the sebaceous gland opening.

The case of lichen planus atrophicus described by Dubreuilh and Petges is not of the type under discussion. The lesions were situated chiefly on the forehead, in the scalp, and later in the mouth. During the course of the disease the question of diagnosis was uncertain for some time. Lupus erythematosus, syphilis and scleroderma en plaque were considered. Finally, after the mouth lesions were discovered, the diagnosis above named was made. The case apparently was one of anomalous lichen planus associated with cutaneous atrophy.

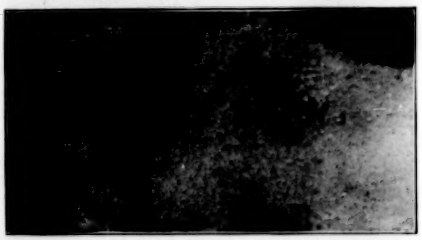

Fig. 5.—Morphea guttata resembling lichen planus sclerosus et atrophicus. Back view of a patient who had diffuse scleroderma of the lower limbs. Reported in *Jour. Cutan. Dis.*, 1907.

The case of lichen planus atrophicus et pigmentosus of Gaucher, Barbe and Balli does not belong to this group. This patient exhibited highly-colored pruritic papules and plaques associated with marked hyperpigmentation, and, finally, atrophy. When the case was discussed before the French Dermatologic Society, Darier, who was familiar with the Hallopeau type, was of the opinion that the case was not one of lichen planus sclerosus.

Wechselmann, in 1903, reported a case under the title "lichen planus atrophicus." This case was further described with detailed histologic study, in 1904, under the title "atrophoderma erythematosa maculosa (lichen planus atrophicus)." The patient was a man, 35 years of age, with cutaneous lesions situated on the forehead, in front of the left ear, over the mastoid region, in the hairy scalp, and on the back to the left of the spinous processes near the junction of the first thoracic vertebra. In the last-named region, bluish-red, umbilicated, ordinary lichen planus papules were described. In the regions about the temple, ear, and scalp, erythematous and papular lesions, forming patches, occurred, which later underwent atrophy. The histology is that of lichen planus with atrophy. No white papules were described, and the case clinically, as well as histologically, is not properly of the Hallopeau type, but appears rather to belong to the group in which atrophy was a sequence.

Pringle[31] exhibited a case of annular and atrophic lichen planus before the London Dermatologic Society in May, 1901. This was an example of ordinary lichen planus with atrophy.

Figure 4 illustrates a case of lichen ruber planus associated with circumscribed atrophic white areas. The case is cited merely for comparison.

The six cases recorded here occurred in the practice of Dr. James Nevins Hyde, the late Dr. Frank Hugh Montgomery and myself. Case 1 is reproduced from a report[32] made in 1907, for the reason that a microscopic study was made in that case. In the five new ones only clinical observations are available.

CASE REPORTS

Case 1.—Patient consulted me at the West Side Hospital (dermatologic clinic), in January, 1906. "The patient, a woman, aged 56, was born and reared in Germany, but has lived in Chicago for thirteen years. She has had seven pregnancies, three of which terminated prematurely. In two others, the infants lived only a few hours, and the remaining two are represented now by two healthy children, aged 23 and 25 years respectively. She gives a history of having suffered many times during her life with a vague febrile disorder she called 'malaria.' She is very heavy, somewhat pallid, but fairly well nourished, and is excessively nervous.

"The present skin disorder began about eight months ago, she states, as small white and black spots, which have gradually increased in number. The lesions are now situated chiefly over the back part of the shoulders, but extend toward the neck and also a short distance down the back. A few spots are scattered over the upper part of the chest down to the margin of the mammæ, and there are a few lesions on the upper and external aspect of the arm.

"The primary lesion is apparently a slightly elevated, angular, polygonal or irregularly-shaped, white papule, which on attaining the size of a millet-seed shows on its surface one or several small, elevated, black, comedo-like points, or minute depressions, where the black points formerly existed. A lesion of the size of a split pea usually contains five or six such points or depressions. The papules vary in size from that of a pin-head to that of a split pea. A few very minute, angular, white papules are present. Some of the lesions are surrounded by a narrow, pinkish areola; others by a brownish discoloration; while many present no color changes at the border.

"Over the back part of each shoulder is a patch formed by the coalescence of papules which, however, do not completely lose their identity. One of these patches measures about two inches in diameter, is irregular in outline, slightly elevated, white in color except for the black points and depressions which dot its surface, rough to the touch, and presents a somewhat wrinkled appearance (Figs. 1, 2 and 3). Over the upper part of the chest the lesions are discrete, irregularly disseminated and abundant. Over the clavicles a somewhat linear arrangement is apparent; while in other areas there is some grouping of the lesions. Here and there atrophic, slightly depressed lesions are present, which are of the shape and color of those just described.

"During the two months in which she has been under observation, there have been displayed at times a very few small, red- or brown-tinged papules, which were indistinguishable from the lesions of ordinary lichen planus, but their transformation into white papules could not be traced. During this period the patient has had very simple treatment, and the only change noted is the disappearance of most of the small, elevated, black points, their places now being occupied by the depressions. She complains of no subjective sensations except,

31. Pringle: A Case of Annular and Atrophic Lichen Planus, Brit. Jour. Dermat., 1901, iii, 215.
32. Jour. Cutan. Dis., xxv, 1.

as the patient describes it, that of 'pulling.' There are no lesions in the mouth or about the wrists.

"*Histology.*—A biopsy was performed, removing a split pea-sized lesion from the posterior aspect of the left shoulder. This lesion was typical and exhibited on its surface six small dots or depressions, from which the comedone-like plugs had been removed. The tissue was fixed and hardened in alcohol, embedded in paraffin, and stained in various ways. A series of sections in which two hair follicles occurred were studied. A lanugo hair was present in each follicle. The most marked changes are in and about these follicles. As a whole, collagen and elastin are abundantly present, except in the areas of cellular infiltration, where both are either lessened or absent. Aside from the special areas to be described, the collagen appears condensed and contains fewer connective tissue nuclei than normal. Blood-vessels are few and are represented by strings of cells running horizontally across the field or radiating in various ways from the hair follicles. No vessels can be demonstrated in the papillary layer. In these sections three distinct and fairly well defined masses of cellular infiltration are present, in addition to that surrounding the follicles. They are situated in the lower part of the corium, about parallel with the base of the follicles, but not in connection with these structures. Beside these deposits, some small areas and some single cells are irregularly distributed about the corium. The infiltration is composed of connective tissue cells, lymphocytes, or small plasma cells, and mast cells. The latter are unusually abundant and occur not only in these special areas, but also irregularly throughout the corium. They are of various shapes, some large with their granules extending far from the nucleus. The changes in the epidermis occur chiefly about the follicular openings. The line between the epidermis and the corium is fairly well defined, its wavy character being only in places obliterated. The rete Malpighii consists of about eight rows of cells, in which there is some increase in the pigment. The stratum granulosum is composed of two rows of elongated, flattened cells containing fine granules of keratohyaline material. The stratum lucidum is not demonstrable, and the stratum corneum is thickened. The mouths of the two follicles, above mentioned, are widely dilated, and in the section present the appearance of a deep v-shaped opening, extending from the surface into the follicle. In places in the different sections a part of this large opening is occupied by a horny material similar to the stratum corneum. The lanugo hair can be demonstrated in the center of this opening, extending down to the base of the follicle. No sweat-ducts or pores occur in the sections, making it impossible to determine a connection between these structures and the clinical pits or depressions. The coil glands present are unaffected. In one place is a circumscribed area of cellular infiltration in the corium between a coil gland below and the epidermis above, but it seems to have no relation to the gland or its duct. From the involvement of the pilo-sebaceous apparatus in such a pathologic process it would seem that this is the seat of the original comedone-like plug, and, later, the pit or depression. The pathological process is more deeply situated than in ordinary lichen planus and the marked involvement of the follicles is not usual in the common variety."

CASE 2.—A private patient of Dr. Hyde's, seen Oct. 15, 1906, and under observation for about two and a half years, was 49 years of age, weighed 176 pounds, and was not robust. The family history revealed no important facts. For years the patient had been nervous and slept poorly. She had suffered from variola at 5 years of age and had in addition the usual diseases incident to childhood. For twenty years she suffered from pruritus each summer, chiefly on the lower limbs. The cutaneous disorder began five years before, on the wrists and thighs. Six months before new lesions occurred about the vulva, accompanied by severe itching, and it was this that induced the patient to seek relief.

An examination on Oct. 15, 1906, showed, on the flexor surfaces of each wrist, many dense, white, irregular papules, varying in size, also some larger plaques. The former were poppy-seed to pea-sized; the latter somewhat larger than a coffee-bean. The inner faces of the thighs showed several round, oval or irregular areas, sharply defined, white or pale red, with a slightly depressed and atrophic center, the border being narrow and irregular, and consisting of small, dense, white, irregular papules. The surface of these lesions was shining and showed punctate depressions. A few scattered lesions were present over the abdomen, about the groins, and over the legs and arms. Some traumatic lesions were also present in these latter areas. On the mucous membrane of the vagina, especially about the clitoris, was a characteristic lichen planus infiltration.

Six months later the patient developed diabetes mellitus, which was still present when she was last seen. In April, 1909, there was a marked recurrence of the pruritus vulvæ, at which time typical lesions of lichen planus sclerosus in various stages of involution were present. A period of radiotherapeutic treatment was given in April and May, since which time the patient remained comfortable.

CASE 3.—The patient consulted my late colleague, Dr. Montgomery, May 31, 1907, from whose notes the following is taken:

The patient, Mrs. M. B., aged 33, had been a delicate, nervous child, but had had no serious illness except scarlet fever from which she had made a good recovery. After finishing a high-school course, she studied and later practiced law five years Ten years before, while studying, she noticed the first signs

Fig. 6.—Morphea guttata closely resembling lichen planus sclerosus et atrophicus (front view).

of the present skin disorder, which appeared as small white spots over the posterior surface of the shoulders. They were white in the beginning and had never been productive of any subjective sensations. They persisted with little or no change except to become somewhat more depressed. Six or eight months before this visit she noticed new areas coming on the back of the neck in the median line extending into the occiput. About one month later lesions began to appear over the breasts and on either thigh. After another month a small area appeared on the anterior surface of the neck (left side), and for about a month lesions appeared on the anterior surface of both wrists. On examination, an irregular triangular area on the back of the neck was typical of lichen planus sclerosus et atrophicus. Not only were the normal lines and folds of the skin exaggerated, but quite typical sclerotic lichen planus papules were visible. A number of these showed characteristic black points. The older lesions on the shoulders exhibited slightly depressed atrophic areas covered with parchment-like epidermis. They were white, but had a slightly dirty-yellowish tinge. On the anterior surface of the neck were a few papules, some with black points, and some showing atrophic areas. Two irregular areas about 2½ inches in diameter were situated on the outer surface of either hip, made up of minute atrophic points, some of which were distinctly angular in outline. On the anterior surface of each wrist were three or four pin-head-sized and smaller, whitish papules. Some of them had the appearance of being beneath the skin. These had been there about a month. Just above

each nipple was an irregular area about 1½ inches in diameter made up of quite closely aggregated, clear, white, very slight depressed (?) atrophic points. In this plaque individual lesions retained their identity. No depression or change in texture could be detected with the finger. The patient and her husband (a physician) were positive that there had been no preceding changes of a different character, and that the patches enlarged simply by the appearance of new white points of the same character. Dermographism was marked and had been present for about a year. A report after seven months indicated no change in the existing, and no appearance of new, lesions.

Case 4.—The patient, a woman aged 67, consulted Dr. Montgomery Oct. 16, 1907. No notes were made concerning the family history. Her general health was fair. She passed the climacteric period at the age of 45. She was of a markedly neurotic disposition. Her skin showed evidences of senility, being thin, atrophic, with patches of hyperpigmentation, and areas of keratosis. The cutaneous disorder was of five years' duration, and had been treated in Hanover, Germany. The patient had also consulted Professor Lassar, of Berlin.

The lesions were situated on the front and back of each shoulder and on the neck with a few outlying papules over the chest. The greater number of lesions were irregular white papules, level with the skin, on the surface of which were

Fig. 7.—Morphea guttata. Same patient as represented in Figure 6 (back view).

minute black points. There were also several typical atrophic areas where lesions had undergone resolution. Slight telangiectasia was noted in the region of some lesions, which varied in size from 2 to 4 mm. Early in the history of the disorder itching was quite marked; later it became less and at the time of the examination was present only to a slight degree. Six months after the first examination there was not much change in most of the lesions. The area on the right shoulder had increased in size. At this time a general examination revealed an interstitial nephritis, with albumin and casts in the urine and blood-pressure of 230. In addition to topical applications, radiotherapy was employed. In March, 1910, I again examined the patient, when only the relics of the lichen planus sclerosus lesions remained. The last consultation was made with reference to the facial hyperpigmentations.

Case 5.—The patient consulted me, Aug. 11, 1909. This patient was a refined, rather delicate woman, 42 years of age. Aside from her nervous temperament, no facts of importance relative to the family or past history were obtained. The cutaneous disorder was of fourteen months' duration. It began on the right side over the region of the clavicle, with six to eight pin-head-sized whitish papules. New lesions gradually developed over the shoulder and upper part of the back, and over the opposite clavicle, shoulder, and back, and a few sparsely distributed over the abdomen. On examination, individual, discrete, irregular, flat-topped, hard white papules, each presenting two to five dark, horny elevations on its surface, and in some only pit-like depressions, were noted in all the described areas. In addition, several dime-sized areas, especially over the shoulders, displayed characteristic grouping of the papules. In these areas individual papules could be detected. The surface was whitish, except where dotted with horny plugs or dark minute pit-like depressions. Radiotherapy was employed during September, 1909. In December, the lesions had largely undergone resolution. In April, 1910, two new plaques developed. In this patient no areola was ever present and no lesions suggesting lichen ruber planus. There was no vascular element in the case, and no mucous membrane involvement. The lesions were sclerotic and whitish from the minutest earliest to the older, forming plaques, each showing characteristic dark points.

Case 6.—The patient first appeared at the dermatologic clinic of Rush Medical College, where she was seen by Dr. Anthony, through whose courtesy I saw her. This patient was the youngest of the group, being 30 years of age. She was seen first on Aug. 17, 1909. She was a telephone operator, highly nervous, had suffered for a long period with severe headaches, and frequent attacks of palpitation of the heart. She was not robust. Her hands and feet were habitually cold. The urine was normal, though she was annoyed by frequent urination. She was practically neurasthenic.

The cutaneous disorder was of one and a half years' duration, and was nearly a replica of Case 5 of this series. The lesions were situated over the clavicles on each side, and extended from over the shoulders to the upper part of the back. The same white sclerosed papules, discrete and grouped, all containing dark horny spines or minute horny depressions, were present. There were no red papules, none of the lesions had an areola, and there were no mucous membrane lesions.

This patient was demonstrated with Case 5 at a meeting of the Chicago Dermatological Society in December, 1909, at which several members of the American Dermatological Association were present.

In February, 1910, radiotherapy was used, with beneficial results.

SUMMARY OF THE SIX CASES HERE RECORDED

All the patients were women, aged 30, 33, 42, 51, 51 and 63 years, respectively. All were neurotic. One had neurasthenia; another had marked, peculiar psychic phenomena; diabetes was present in one; interstitial nephritis in a second. The duration of the cutaneous disease was eight months, fourteen months, eighteen months, five years, five years and ten years, respectively.

The site of most extensive involvement in five of the patients was the region over the clavicles, shoulders, neck and upper part of the back. In one the wrists, flexor surface, thighs, abdomen, groins, were chiefly affected, with a few lesions appearing on the legs and arms. The essential lesions in all cases were whitish, discrete, round, oval, irregular, or polygonal, flat-topped papules; similar lesions forming whitish plaques, all having dark, horny spines, or punctate depressions. The lesions were either level with the surrounding cutaneous surface or very slightly elevated. In all the terminal result was a white depressed, delicate scarring or production of atrophic areas of the size and shape of the preceding lesion, whether papule or plaque.

In two patients a few usual reddish lichen ruber planus papules were present, but they were never observed undergoing transformation into the white lesions. The latter were from the beginning white papules.

In one patient coincident mucous membrane involvement with ordinary lichen planus was noted. In Hallopeau's case this occurred in the mouth. In one of my cases the vagina was involved. In five cases subjective sensations were slight or absent; in one they were

marked, but the pruritus could not be attributed to the disorder under discussion.

That the disease may be persistent is evidenced by its long duration in some of the patients who still exhibit active lesions.

In five cases in which radiotherapy was used it proved to be a valuable therapeutic measure.

The group as a whole corresponds clinically with the Hallopeau type of lichen planus sclerosus, and in the one case where a histological study was made it corresponded with Darier's observations in Hallopeau's case, and also with his own.

CONCLUSIONS

From the brief summary detailed above it appears logical to group the six cases under one title. They do not differ from one another more than the members of any group of six different patients suffering with any single dermatosis. In the question of differential diagnosis only three cutaneous disorders capable of producing whitish lesions on the skin need be considered, viz.: localized or circumscribed scleroderma (Fig. 5), lichen ruber planus of usual type associated with or followed by atrophy, and the so-called "white-spot disease." Such disorders as vitiligo, syphilis, lupus erythematosus, nævus anæmicus, and lepra are readily excluded. Lichen planus of the usual type associated with atrophy is excluded by the fact that the primary lesion in these cases is never reddish, as in its whole career it is a whitish sclerotic papule. That these cases are probably of the same nature and simply a special form of lichen planus is strongly suggested by the association in certain cases with mucous membrane involvement of the lichen planus type; also by the fact that some papules of the ordinary form at times concur, and, finally, by the fact that the lesions themselves, both as to size, shape and arrangement, are similar, the striking difference existing only in the color and presence of characteristic dark, horny spines and keratotic punctiform depressions. The so-called "white-spot disease," as a rule, if not always, is an anomalous localized scleroderma. In certain cases of circumscribed scleroderma the resemblance is striking (Figs. 6 and 7). Here again the initial papule is the important factor. In the case of circumscribed scleroderma above referred to papulation is simulated by the line of cleavage in the skin, but on careful observation the difference can be noted, and in scleroderma involvement of the sweat-pore and pilo-sebaceous follicles is wanting. Finally, in a retrospect of the entire subject the identity of lichen planus sclerosus appears established, but the separate existence of a "white-spot disease" requires further study.

100 State Street.

Imprisonment of a Physician for Extortion.—Our German exchanges state that a certain sickness insurance society refused to pay the account rendered by a local physician on the ground of the statute of time limitations. He warned the company that unless they paid the account he would bring the matter to the attention of the local medical council and the company would be boycotted. The government experts, the *königl. Medizinalkollegium*, declared the charges too high and the company thereupon sued the physician for attempted extortion, and he was condemned by the local court to a week's imprisonment. The editorial comment in one exchange is merely a warning to physicians to proceed always with extreme conscientiousness and prudence in attempting to collect what is due them.

REPORT OF A CASE OF INTUSSUSCEPTION

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In presenting the following case of intussusception which came under my care, I wish to call attention to its most unusual phases, which were of great interest to me and to those of my colleagues who saw the operations.

Patient.—On April 1, 1910, I was called to see I. H., white, aged 21, a dairyman, single, with family history as follows: Mother living and widow; father died at age of 81, of senility; one brother living, married and in good health. Two sisters living, one married, one single, both enjoying good health. No history of tuberculosis, cancer, rheumatism, heart, kidney or nervous trouble. The patient used no tobacco or spirits; drank coffee three times a day; at times drank quantities of tea. Habits regular, except constipation. He had had most diseases of childhood; had never had diphtheria, scarlet or typhoid fever, pneumonia, kidney or heart trouble. Genitourinary examination was negative. He had had chronic indigestion with acute exacerbations, which would last two or three days, with slight pain at times in the epigastrium, accompanied by nausea and some vomiting.

Present Illness.—When, on April 1, 1910, I saw patient for the first time his pulse, temperature and respiration were practically normal. He complained of some pain in the epigastrium and nausea, and there was slight vomiting of bile-colored matter. His tongue was coated. I ordered 3 gr. of calomel, followed next morning with magnesium sulphate. I withheld all food. The patient had two bowel actions in afternoon and night, and following morning was comfortable and ate breakfast. I learned from the attendants that the magnesium sulphate was not given. A comfortable day and night followed. On Sunday forenoon, April 3, I received a message saying that the patient was suffering with pain in stomach and was vomiting. I saw patient about 1 o'clock the same day and found that he was vomiting incessantly. There was continuous pain in the upper part of the abdomen. I had him wash his stomach out with a solution of bicarbonate of soda and left orders for an enema, which was given and returned with slight result. The nausea was somewhat relieved, but vomiting soon set up again, and the pain was continuous. The abdomen at this time was soft, with no distention and no evidence of tumor present. I saw patient again at 7 o'clock that night and found the symptoms greatly exaggerated. There was still no distention, but I felt a tumor below and to the right of umbilicus, with a dulness that extended almost across the lower half of abdomen. I gave an enema, with no result; then gave one-half grain of morphin and advised sending the patient to a hospital. I told the family that I believed an operation to be imperative, but would do what I could to relieve obstruction before resorting to operation. This was done. During the night the patient was given laparotomy enemas, enemas of alum, etc., but with no result.

Fig. 1.—Intussusception first; section of ileum 3 feet long, removed April 4, 1910. Forceps at neck of intussusception.

He passed some blood and mucus (just before operation, slight) and in the early morning vomited some fecal matter.

First Operation.—The patient was prepared and operated on April 4. I made a median incision below the umbilicus which extended above and to the left of that point, and found an invaginated small intestine which I supposed to be the upper part of the ileum. I resected the intussuscepted intestine, which was more or less gangrenous, taking out three feet. I did an end-to-end approximation and closed the abdomen in the usual way, leaving drain in.

The patient suffered very little shock and was put to bed in Fowler's position and given Murphy enteroclyses. He rested well. During the first forty-eight hours the pulse was frequent, as rapid as 120 per minute at times; temperature from 99 to 101; but on the third day, while the temperature was still slightly elevated, the pulse returned to normal. On the second day the patient had some nausea and vomiting. His stomach was lavaged, which relieved the vomiting entirely, and nausea did not return until the third day, at which time lavage was repeated and his stomach symptoms were relieved entirely. His kidneys acted freely, and on the fourth day, April 7, he had a voluntary bowel movement. His condition and recovery were entirely satisfactory until April 14, at which time he had some nausea, but did not vomit until next day. At this time he had been taking nourishment by mouth for five days. The vomiting was somewhat relieved by lavage, but his condition grew worse and we decided on another operation that morning at 8 o'clock. This was April 15.

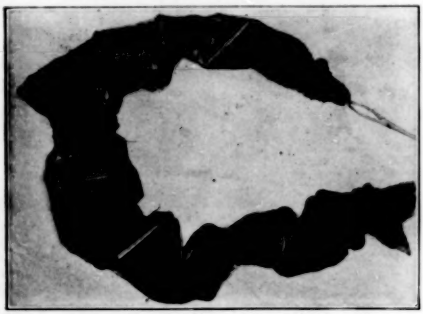

Fig. 2.—Intussusception second; section of jejunum 4½ feet long, removed April 24, 1910. Forceps at point where neck of intussusception was, before intestine was opened.

Second Operation.—Incision was made in median line above umbilicus, and I found that I had to extend this into upper part of old incision in order to reach the obstructed parts. I found an adhesive band about eighteen inches from the resected portion of the bowel. The omentum was adherent to several structures, but doing no harm. The resected portion was free from adhesions and perfectly healed. I freed the adhesive band, sutured over the raw surfaces, and closed the abdomen.

With little or no shock from this second operation the patient was again put to bed in Fowler's position with Murphy drip. Condition was satisfactory, except for nausea and vomiting, which were relieved, as before, by lavage. On April 17, the third day after second operation, he was given magnesium sulphate through stomach-tube, which resulted in three or four stools. On the fifth day he was taking nourishment, and on the eighth, light diet. On April 23, the ninth day after second operation, he had slight nausea and refused nourishment. He complained of some pain in abdomen in forenoon, but later on in the afternoon the pain became severe and continuous. There was persistent vomiting and early shock. I also found a tumor in left upper quadrant of the abdomen with dulness, extreme tenderness and very slight distention.

Third Operation.—We operated at 1:30 o'clock a. m. April 24. I made incision in the left semilunar line and delivered the invaginated intestine, which was very congested and edematous, almost as much so as the first resected portion. I resected about 4½ or 5 feet of jejunum and found a tumor of the adenopapillomatous variety at the neck of and termination of the invagination; also two or three small ones projecting from the lumen of the intestine. The tumors were examined by Dr. Newton Evans, who reported their nature to be as stated. These tumors were almost large enough to obstruct the lumen. As before, I made an end-to-end approximation and closed the incision with a drain the lower end.

Postoperative History.—After operation patient was put to bed with foot of bed elevated and was given hypodermoclyses, with slight stimulation, strychnin, digitalin and adrenalin; also Murphy drip. The patient suffered considerable shock after this, the third major operation he had undergone within three weeks. He made an uneventful recovery. There was slight infection, though the wounds healed kindly. On May 16 he was up and walking about the hospital.

After the specimen had been removed and placed in saline solution slight peristalsis of portions was observed for several minutes.

The interesting points of the case are the following:

1.—Age of patient, 21 years.

2.—History of indigestion for two or three years.

Fig. 3.—Abdomen after wounds had healed, with median and lateral scars.

3.—Onset of attacks.

4.—Early diagnosis.

5.—Early surgical interference.

6.—Recurrent attacks.

7.—Rapid recovery from each operation.

8.—At times active peristalsis.

9.—Large quantities of liquids administered by enteroclysis retained over great length of time.

The enteroclyses were as follows: After the first operation, 1½ pints of saline solution, every four hours for four days, all retained. After the second operation, 1½ pints of saline solution, and 1½ ounces of a predigested food, every four hours for two days, all retained but part of one. After the third operation, 1½ pints of saline solution, 1½ ounces of the alcoholic predigested food, every four hours for two days; part of one returned. The quantity was then diminished to 4 ounces of saline solution and 1 ounce of the peptonized food, every four hours for twenty days; all retained. The reason for the long-continued enteroclyses was that patient refused to take proper nourishment and liquids.

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THE DIAGNOSIS OF LEPROSY*

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Long association with the Louisiana Leper Home has given us an opportunity for the observation of leprosy, and we hope that this, together with the importance of correct and early diagnosis, in countries where leprosy is likely to occur, will justify the present discussion of this subject. We are not submitting any new points in diagnosis but rather argue the need of a practical presentation of the matter for the general profession, especially in our own country, where every now and then a notable case proves an ignorance of essential points which should be known. More than this, the reports of imported cases of leprosy in our seaport cities have shown conclusively either that the national quarantine against leprosy is a farce in its enforcement, or that the quarantine officials are ignorant of the symptoms of the disease. In New York chiefly numerous cases have been presented which have more or less recently been admitted to this country without hindrance.

As a matter of fact, the increasing number of lepers in New York has grown by importation, as the disease so far is not held endemic there.

The trouble in diagnosis lies more with atypical cases, with incipient tubercular cases and with those anesthetic cases which present no longer active skin manifestations. Another source of confusion in diagnosis lies in the changes that appear in lesions during the periodic occurrence of exacerbations accompanied by lepra fever.

Like syphilis, leprosy has often been divided into stages and types, but, as in syphilis the value of such diagrammatic classification of leprosy is greatly impaired by the fact that the types are often mixed and that the lesions that should be present in one stage are often found in another. Generally the type depends on the habitat of the bacillary cause, the anesthetic or trophic being due to nervous injury by the bacilli, the tubercular or nodular being due to the presence of the bacilli in the skin, and the mixed type being a combination of the anesthetic and tubercular forms. It is not unusual in the course of years to see a change in the type. The tubercular type in a mixed case may disappear, leaving only the anesthetic, and a purely anesthetic case may after years develop tubercles, forming the mixed type, which may in turn evolve a trophic type, having no tubercles in evidence.

The usual sequence of the lesions after the prodromal period is that the first manifestation in almost every case is in macules which usually initiate all types, usually varying in their location accordingly. Much rarer is the bullous eruption which occurs in this same early stage. Tubercles usually appear later than macules and may be independent of them; the ulceration and cicatrization of the skin occur ordinarily only in the terminal stage, though the perforating ulcer, which is a sinus leading to necrotic bone, may be found early, and in mutilating types the erosions following bullous leprosy may form true ulcers before any macules or tubercles present themselves.

The macular eruptions do not always present the same characteristics. They vary from the size of a dollar, or smaller, to a patch large enough to cover an entire anatomic region; the pigment may be almost uniformly distributed throughout the patch, as it is in chloasma, or it may disappear in the center, leaving a ring of pigment surrounding an area of skin lighter in color than the normal; somewhat the same arrangement that ringworm of the general surface assumes, except that the atrophy of pigment in the center is marked and may, at the same time, involve the deeper skin. Scales are unusual in both types and occur usually only as a result of inflammation in the area or as the evidence of trophic disturbances.

The first type, the uniformly pigmented macule, depends largely for its characteristics on the amount of infiltration provoked by the presence of the bacilli. It may be simply a brown stain, level with the surface of the skin, with an irregularly shaped border not always marginated, or a patch so elevated that the term macule becomes a misnomer. On the other hand, there may be multitudinous macules, with symmetrically bilateral distribution on the trunk and extremities alike, entirely free of bacilli and having all the characteristics of a true erythema.

This form of macule is particularly common in anesthetic leprosy in which the early involvement of the nerve trunks of the extremities points to the toxic influence of the leprous deposits along the nerves. This is particularly argued in the facts that such eruptions of macules are evanescent and that the lesions themselves are highly colored, bright red, and are often apt to be hyperesthetic and not anesthetic as are the more deeply pigmented and infiltrated lesions.

In the second form the margin is well defined and the brown color becomes a purplish red. Between these two extremes are the variations in shade made possible by the varying degrees of inflammatory infiltration. The favorite location is the buttocks, though the face, trunk and limbs may also be involved, and these macules are often the sites of later tubercles or nodules, especially when found on the face. Though these may not be necessarily symmetrical when they first appear, later these macules become so as the eruption fully develops. During the periods of lepra fever the macules may become intensely inflamed and painful, and though the fever does not usually occur severely during the incipient period, we have had at the Louisiana Leper Home instances in which the whole macular areas, numbering four or five as large as the palm of a child's hand, have ulcerated. Ulceration in the incipient stage is indeed rare, and can be explained only by the lepra fever, which is evidently a manifestation in greater or less degree of fulmination of deposits of lepra organism, or else the acute reaction associated with new fields of invasion.

In the circinate type the patch of lepra macules usually grows in size after it first appears, spreading from the outer border of the ring, which preserves a well-defined margin; and it is more often associated with the anesthetic than the tubercular form. The inner margin of the ring is not liable to show as well-defined a border as the outer, and as the lesion grows larger in area the paler center grows also, keeping the pigmented ring nearly constant in relative breadth. The degree of infiltration in this type of macule is not as variable as in the first type, usually remaining slight, and the color varies with the depth of infiltration. This,

* Read in the Section on Dermatology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

too, is found almost always as a light brown, aptly described as *café au lait*, which is the characteristic color of all of the macules that present the least amount of infiltration. A reddish tinge is added to the brown of the border in those cases with more marked infiltration, the resultant color being a red-brown, which is again intensified during the lepra fever. This circinate type may occur on any part of the body, but the hands and head are not as liable to this as to the form in which the macule presents a uniformly pigmented area, appearing *en plaque*. The areas of especial predilection are the shoulders, legs, thighs, buttocks and forearms, in the order named. It is not infrequent to find confluent lesions of this type forming grotesque ribbons of irregular borders and outlines, extending along the whole of an extremity or showing symmetric figures over the back.

The bullous eruption, which is very rarely seen, occurs associated with this early stage, or precedes the macule if it occurs at all. The bullæ contain serum at first, but become pustular in a short time. They are not larger than a small marble, and occur most frequently on the hands and feet. The clinical diagnosis is frequently difficult without other evidences of the disease. The bullæ have a predilection for the areas over the knuckles of the fingers and will repeatedly appear in the same site, establishing scar areas with encircling pigment, which is characteristic. Often these lesions lead to ulceration and even trophic changes in many cases misleading to a diagnosis of neuritis and not infrequently escaping the suspicion of leprosy for months or years, in the hands of neurologists. Several cases have finally come to a diagnosis of leprosy when the skin evidences of macules or tubercles elsewhere have developed.

On the feet the bullæ seldom appear so early, and when they do come they are found on the plantar surface, usually going on to actual ulceration, trophic in character.

Late leprosy will develop bullæ as evidences of trophic changes and here the destruction of skin and deeper tissues is the rule, finally causing the destructive, amputative deformities found in nerve leprosy and the loss of terminal or intermediate phalanges of the digits of fingers and toes.

The tubercles in leprosy have their favorite location on the face, involving especially the lower part of the forehead, the ears, the nose, the chin, the cheeks, in the order named. The hands and other parts are less frequently involved.

They may begin in the patches of a macular eruption, or they may develop in normal skin. When sufficiently developed tubercular or nodular leprosy is essentially a bilateral, symmetrical disease. In some cases individual tubercles cannot be distinguished, but the whole skin of the face is greatly infiltrated, thickened and discolored, the surface remaining smooth, or, more often, cut by furrows sometimes a quarter of an inch deep in the natural lines of cleavage, or in the folds of the forehead, cheeks or chin. This furrowed type is especially marked on the cheeks and forehead and gives the leonine expression to the countenance more strikingly than the other varieties. In other cases the tubercles preserve their integrity, studding the face in their favorite areas of distribution with nodules varying in size from a pea to a marble. The color is usually a dusky reddish-brown, or may be waxy white in those cases in which the lesions are scattered and which are usually the most malignant. Each individual nodule is rounded at the base and spherical in contour, much as if peas or marbles had been stuck in the skin.

The eyebrows and beard may fall in this type, but as the scalp is not usually affected its hair may be preserved in its integrity until very late in the disease or to its termination.

Periodically in the course of the disease there may occur an outbreak of tubercles, evanescent in character, highly inflammatory and very painful. These occur during the course of the lepra fever before mentioned, which may last from one to five or six weeks, or even longer. These tubercles are deep-seated and dull red in color, not showing the brown pigment of the chronic type. They fade away with the subsidence of the fever and sometimes one crop will disappear to be replaced by another before the temperature returns to normal. The inflammation in this type is sometimes so intense that vesicles and bullæ develop on the tops of the tubercles, and some may even undergo suppuration with the formation of abscesses. Their distribution over the body is far more general than that of the permanent tubercles, as they occur not only on the face and hands but also on the trunk and on both the flexor and extensor surfaces of the extremities. The type of fever referred to as lepra fever is not the fever usually described as one of the prodromal symptoms of leprosy, but is an irregular elevation of temperature ranging from 100 to 104 F., and associated either with marked changes in the macules or tubercles present before the occurrence of the fever, or with the formation of such tubercles as have just been described. These tubercles may be especially recognized by their tendency to uniformity in size and their usual lenticular shape as if a flat bean were embedded in the skin.

The lepra fever has two distinguishing symptoms, the rise in temperature and the development of tubercles different in many characteristics from the lesions found as the usual evidences of leprosy. In the tubercular and mixed cases it occurs at varying intervals of time and is of varying duration, while in the pure anesthetic and trophic cases, as there are no tubercles, the skin evidences are lacking. Though there may be periodic rises of temperature, they are often associated with the suppuration which is the result of nerve disturbances and which is more liable to affect the bones and joints than the skin; in consequence the cardinal point in the diagnosis of lepra fever is lacking.

The inflammatory evidences in the tubercles accompanied by a general rise of temperature occur in almost every case of tubercular or mixed leprosy, though the symptoms are sometimes of so slight a character as almost to escape observation. The temperature may vary from so slight a rise above the normal as to occasion merely a feeling of malaise, to a grave febrile condition. The range of temperature is from 99 to 105 or 106, and two cases have been observed in which the result was fatal. The attack is often ushered in with a chill, and the duration is very variable—from a few days to several weeks or even months. Some patients have been known to have as many as three or four attacks during one year. The chief features of the temperature chart are the remittent character of the fever, and the sudden great rises and fall of temperature. The chart of a well-marked case very closely resembles that of septicemia.

The occurrence of marked inflammatory symptoms in old tubercles, infiltrated patches, macules, or in areas of skin which apparently were previously healthy, is coincident with the rise of temperature and is characterized

by swelling, redness, pain and, rarely, suppuration. The occurrence is most frequent in old tubercles and least frequent in areas of skin which previously were not involved. The duration of the inflammatory nodules is short, but one crop is followed by another as long as the fever lasts. The location is most frequently on those parts of the body that are involved by the chronic characteristic nodules of leprosy, the face, neck, hands, and also the arms and legs. The distribution seems, like that of the chronic lesions, to prefer those parts of the body in which the temperature is lowest. The trunk is less frequently involved, and we have seen no cases involving the scalp. The number of lesions found at one time is very variable and they are disseminated with an irregular, bilateral symmetry. They vary from the size of a split pea to that of a hen's egg. The elevation above the surrounding skin is well marked and the nodules are of a globular contour, usually rounded in outline and distinctly limited in area. The color is uniformly red—a brighter and more brilliant hue than the dusky purplish red of the stationary tubercles, from which they can be differentiated not only by their inflammatory character but also by their rapid development, their evanescent character and an occasional tendency to suppurate and occur on parts of the body not usually affected by permanent bacillary deposits. Unless suppuration occurs the nodules are quite firm to touch and most resemble those found in erythema nodosum. It has been a matter of observation that often after attacks of lepra fever there has been improvement in the old tubercle and in the general condition, which seems to argue that during these attacks some bacillary product is formed which not only causes the elevation of temperature but also either directly affects the life or growth of the organisms, or indirectly, through the elevation of temperature, produces a condition unfavorable to the germ life.

In support of the latter view may be mentioned an observation made by Dr. F. B. Gurd, of the Department of Pathology of Tulane, in which the pus from an abscess caused by the suppuration of an inflamed tubercle was found to contain no organism except the bacillus of Hansen. These bacilli were found to be incapable of cultivation under the same conditions in which other Hansen bacilli had been found to flourish.

It is also interesting to note that during the administration of a series of hot baths, in which an effort was made to maintain an elevation of temperature of 104 for several hours, two tubercular cases developed lepra fever. If we may be permitted a little speculation, the great improvement derived from elevation of temperature, even in advanced cases of leprosy, may be explained on the hypothesis that the lepra bacillus does not thrive at high temperatures. The location of the chronic tubercles is very suggestive of this, as is also the improvement noted after erysipelas, lepra fever, and artificial elevation of temperature by means of hot baths. It seems possible that the products of the disintegration of dead bacilli provoke a general rise of temperature as well as the local heat of inflammation, and that the febrile condition thus produced reacts on bacilli in other locations, which, in turn, in their disintegration, liberate fever-producing toxins. It is conceivable that such a process should continue until all the less viable bacilli become destroyed, when the temperature returns to normal and old lesions show considerable improvement.

With the exception of the tubercle associated with the lepra fever the nodules of leprosy seem to have a marked preference for the exposed parts of the head. The scalp is almost always free, while the ears are, on the contrary, almost always involved. They become enormously enlarged either by the presence of tubercles, in the lobes especially, or by a diffuse infiltration, both of which cause a marked discoloration. It is not unusual to find, even in terminal cases, tubercles present massed over the entire face and ulcerating, the limit of the most aggravated part of the eruption clearly marked by a line around the neck about where the shirt-band rests. On the trunk and arms and legs the macular eruption is far more common than the tubercular, though nodules may occasionally be found over a macular patch or even on a part of the skin presenting no other lesions. The tubercles never mass over the entire body as they do over the face. The most common condition on the hands is the thickening of the skin and pigmentation, with tubercles more sparsely scattered than on the face, the color being a dusky brown. The infiltration and swelling of the hands so affect the skin as often to cause a papery consistency like thin parchment.

The ulcers of leprosy are of two kinds, the perforating and the purely cutaneous. The latter occur most frequently on the face and on the legs. On the face they are usually superficial, but those around the mouth are liable to cause considerable destruction, and when the ulceration has healed the shrinking resulting from cicatrization will reduce the mouth to about one-third its normal size. The ulceration of the face occurs only in the terminal stage when the tubercles have become large and thickly aggregated, and it is found only in the tubercular and mixed types, the trophic form, or nerve leprosy showing in the face only by the infiltration of the whole mask of the face, with thinning of the epidermis, leaving the skin glossy and pigmented. The ears in this form are often flabby and pendulous; ectropion causes a stare, which is a peculiarity of this disease. The cause of the breaking down of the nodular masses seems to be due more to a disturbance of circulation in the skin than to the bacilli present, and this seems true also of the ulcers of the leg, where the circulatory balance is easily disturbed by gravity.

The perforating ulcer is associated only with the anesthetic form and is found only on the hands and feet, and more often on the ball of the foot than elsewhere. It is a surgical condition, being a sinus leading to necrotic bone. The horny layer of the skin is much hypertrophied when the ulcer is on the foot and the condition is painless.

A strong confirmatory symptom of leprosy is the anesthesia found in all types. In the tubercular type it is confined to the lesions, but in the anesthetic it spreads over the area of distribution of the nerve affected. The sense of pain and temperature are lost before the sense of touch, and in the anesthetic type the nerves most frequently involved first are the ulnars. The loss of sensibility begins usually in the tip of the little finger and spreads gradually to the adjacent fingers and up to the forearm. Other nerves become involved later on and the anesthesia may become general. In this instance there is always either marked thickening of the ulnar nerve or distinct nodes along the nerve. The left side is more often the first to be affected.

The mutilation in the anesthetic or nerve type is almost confined to the hands and feet, usually being limited to a loss of the fingers and toes, and is due to trophic changes caused by nerve destruction. The atrophy may be manifested by the "claw-hand," in which the flexor tendons and muscles shrink more than the extensor, drawing the fingers up and preventing exten-

sion, or it may affect the bones, causing either necrosis or a gradual degeneration and absorption.

When necrosis occurs, a perforating ulcer is established and persists until the fragment of dead bone, sometimes an entire phalanx, is discharged. The ulcer then heals, leaving the finger or toe shortened by the loss of bone. When necrosis with suppuration does not cause the loss of bone in mass, a slower process of absorption goes on, and the flexed fingers become shrunken masses of flesh with atrophied nails at their extremities.

The curious condition of an amputation at the joints by constricting circular atrophy, just as in the disease known as "ainhum," is often observed and fingers and toes are often lost in this painless way. A band of fibrous tissue forms around some part of the digit and gradually constricts the underlying tissues. The band is usually about one quarter to one-half inch in breadth, and as it grows tighter the tendons and bones under it atrophy until the finger is left hanging by a fibrous band, which can easily be cut off with a pair of scissors; or, if left to itself, the finger will fall away, the patient often being unconscious when the loss occurs.

The suppuration attending the necrosis of bone may extend to joints involving the articulations at the wrists and ankles and occasioning a condition like tuberculous or septic arthritis.

Considerable attention has been directed to leprosy in the United States and recent cases have enforced the belief that not enough emphasis has been placed on the training of government physicians with regard to this disease. The notoriety attaching to the Early case alone, which excited the qualified criticism of at least two distinguished foreign leprologists, may be cited in point.

The United States has specific immigration laws which require the deportation of lepers; yet in 1908 several patients with advanced leprosy were shown in New York at the International Dermatological Congress, and some of these cases were in recently imported foreigners.

Within the past three years Dr. Dyer has seen two lepers from Central and South America, who reached New Orleans by way of New York. These cases were well enough marked to have been recognized by any health officer who had even a meager idea of the disease.

It is highly important that the cardinal symptoms of leprosy should be learned by the officers of the public health so that importation of leprosy may stop. It does not require any more legislation, but more education of port physicians.

The salient points of diagnosis in leprosy consist in the recognition of the stamp of the disease, which is always suggested by the dusky hue, the swollen skin, the overhanging eyebrows and the raucous voice. The hands, too, have a thinned epidermis and an altered color which is different from that in any other disease. The presence of tubercles in the skin of the face, at the lips and about the nose, with others, in the pendulous parts of the ears—all these should make a case suspicious.

The differential diagnosis of leprosy, clinically, is at all times simple. There are only two conditions which at all resemble tubercular leprosy, iodism and disseminated tuberculosis cutis. The first-named condition is seldom seen in the areas common to leprosy and the nodules of iodism are highly inflammatory and ready to break down.

With tuberculosis of the skin, the lesions are numerous, small, and deep-seated, under the epidermis as a rule. They are dirty white in color and seldom assume a reddened hue. Moreover, this condition on the face is unusual and when it does occur, the lesions are more apt to occur bilaterally and symmetrically, in numbers, on the cheeks and wings of the nose than elsewhere.

We would finally make the point that all physicians should report any cases of leprosy coming under their observation so that the actual occurrence of this disease in the United States may be studied and the statistics derived may be of some value in establishing an institution for the care of leprosy under government control and expense.

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ABSTRACT OF DISCUSSION

Dr. A. Ravógli, Cincinnati: It would be somewhat difficult to measure the value of fever as a diagnostic factor in these cases. The fever is usually present in the early stage of the disease, but we seldom see cases of leprosy in their development. We usually see them when they begin to suffer from neuralgic pains or during the eruptive stage. It is extremely difficult to establish the diagnosis of leprosy in the second stage, when the eruption which we call the leprides are developing, as they can easily be mistaken for various kinds of eruptions. The only characteristic symptom is when they show the toxic erythema—large, reddish patches on the arms or in other regions which usually are accompanied by severe neuralgic pains when the nerves have become involved. In the later stages, when the tubercles form, the disease is more readily recognized. I have seen cases where there was scarcely any eruption—merely spots of cloasma or vitiligo and neuralgic pains. Then the hands begin to be paralyzed and take on that peculiar appearance, hand-drop. In one case only a large leproma developed on the knee and another on the foot, causing ulcer which involved the joint and the bones. I firmly believe that with a little experience and attention it will not be difficult to establish the diagnosis of this disease, which should be stamped out. This is being done with brilliant results in Norway. In the United States we have about 278 cases, some in North and South Dakota from Iceland, some in Minnesota from Sweden and Norway, some in Louisiana from the Bahama Islands, some in San Francisco from the Orient, and other scattered cases here and there. It is important, I think, that the United States Government should take up this question. We had a case in one of the hospitals in Cincinnati, in which the diagnosis of leprosy was fairly positive. The patient was a negro soldier who had spent four years in Cuba, and when we asked the health officer of the city what to do with him, we were told to let him go. I think it is dangerous that these patients should be allowed to remain in localities where they will be in free communication with other people.

Dr. Marcus Haase, Memphis, Tenn.: I would not have had the opportunity of seeing a case of leprosy had it not been for this lepra fever. I would like to ask Dr. Dyer what percentage of these patients have this fever after the disease is fully developed?

Dr. S. T. Darling, Ancon Hospital, Canal Zone: The subject of leprosy is a very important one in the United States at this time when soldiers who have served in the Philippines and where employees from the Canal Zone are returning to take up permanent residences in various parts of the country. In the Canal Zone we have had no case of leprosy among Americans, and but one in a European. Our quarantine officers have been alert and active in the detection of the cases passing through their hands. We find that the diagnosis of the nodular form of the disease is easy. In fact, several of our cases have been detected by district sanitary inspectors, who are laymen. The anesthetic type of the disease presents greater difficulties. In these cases it is important and necessary in the examination to strip the patient and look for the presence of the characteristic annular areas of anesthesia and discoloration of the skin on the back, breast, abdomen and buttocks. These cases frequently present circular ulcers on the feet between the second and third toes. We have at times removed parts of the enlarged ulnar nerve for diagnosis

and failed to detect bacilli. The *x*-ray as a diagnostic aid has been used by Dr. A. B. Herrick, Ancon Hospital, for, in association with trophic ulcers of the feet in the anesthetic type there is a definite atrophy of the phalanges near the ulcer, which is well shown in radiographs. I believe Scheube has called attention to the fever of leprosy, but I do not think it is of much importance in the diagnosis of cases of leprosy of the anesthetic type.

DR. WILLIAM LITTERER, Nashville, Tenn.: I was greatly interested in Dr. Dyer's explanation of the fever in leprosy. I think he is correct when he states that it is due to some form of intoxication. This intoxication is in all probability due to the toxins, or disintegrated products of the lepra bacillus. It seems that the patient gets better several days after the fever. This would indicate that the liberated lepra toxins would cause an increase in the opsonic power of the blood, similar to that seen as a result of tuberculin administration. While I do not know whether or not it is feasible, I would suggest taking an emulsion of the lepra bacilli after their growth on a proper medium and injecting the bacilli as a means of treatment.

DR. I. DYER, New Orleans: I again wish to make the statement that my paper was not an academic presentation of the subject, but rather a discussion of its salient features, because of the evident ignorance of the disease in our own country. Drs. Duval and Gurd, the pathologists of Tulane College, intend to present to the Society for the Study of Tropical Medicine a culture of the lepra bacilli which they have successfully carried on since last December, and we have already considered the elaboration of a vaccine. We hope, before another year has gone by, to have something to report in that line. In my paper, I purposely omitted any discussion of the subject of the laboratory diagnosis of leprosy. The discussion of anomalous types of the disease is largely covered in the portion of my paper which I omitted in reading. With us, and in all countries where the disease is fairly virgin, the anesthetic type is much more difficult to recognize than the tubercular. Such cases have been mistaken for syringomyelia by neurologists.

With reference to lepra fever, we have considered only that fever which occurs after the disease is well defined, and not that observed in the prodromal stage. In most of the cases of skin leprosy, which we have termed the tubercular type, this fever is often observed after the disease is well developed. As these cases have improved—and fully 90 per cent. of our cases have undergone a high degree of amelioration—the fever has always been associated with the improvement. In Louisiana, leprosy has been recognized and demonstrated since 1778.

THE SIGNIFICANCE OF EDEMA OF THE SOFT PALATE

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Not infrequently an apparently trivial symptom may be the expression of a serious affection, and if it is unheeded and the opportunity for active treatment allowed to pass it may lead to a fatal termination before its true significance has been appreciated. Such a symptom is edema of the soft palate, and especially the uvula. When observed its possible gravity must be seriously considered. Edema of the soft palate chiefly involves the uvula, but may affect the faucial pillars, especially the posterior, or even the lateral pharyngeal wall. The uvular swelling may be slight, appearing as a glistening drop at its tip, or may be so massive that the faucial isthmus is occluded and breathing becomes impeded. The most frequent and at the same time trivial type is found in those who use the voice excessively, such as professional speakers, or improperly, even for a short time, such as impromptu orators. This is illustrated by the following case:

CASE 1.—A. G., male, aged 32 years, had excellent general health, but granular pharyngitis caused him to clear his throat frequently. He had been speaking every evening for a month at political meetings with no discomfort, when, after a long speech in the open air, he felt as if a foreign body was in the throat and was obliged to swallow constantly. Examination showed a bead-like swelling on the tip of the uvula, above which the mucosa was inflamed.

Such a case is an acute traumatic uvulitis and is purely local. No serious significance can be attached to it except that edema of any portion of the upper air-passages, it matters not how slight, carries with it the possibility of extension to the larynx, with all the seriousness that it implies.

Associated with general affections, as rheumatism, grip, etc., or with local conditions, as peritonsillar abscess, acute uvulitis is not infrequent, and in some cases of grip the brunt of the inflammation may be borne by the soft palate, with more or less swelling of the uvula.

Again, edema may occur as the result of direct traumatism, such as is caused by operations in this region and the application of the cautery to the tonsil, or it may occur in association with ulcerative processes of the mouth and pharynx, while sometimes it is seen as part of acute pharyngitis. In some individuals there exists a marked vulnerability to attacks of acute inflammation of the uvula with edema, so that on the slightest provocation pain and edema develop, causing difficulty in deglutition and possibly dyspnea.

Severe inflammation of the adjacent tissues is frequently attended with edema, especially in peritonsillar abscess, when serious symptoms may result from the enormously swollen uvula, and also from the glottic edema which may be associated with it. In peritonsillar abscess of any duration, edema of the adjacent tissues is a part of the morbid process and, in severe cases with much pus, an active factor in its production is blocking of the intercellular spaces with leukocytes, the blood channels being dilated, so that the escape of fluid into the tissues becomes conspicuous. An exaggerated case of this type, in which the edema was limited to the uvula, is the following:

CASE 2.—A man of 43, an abstainer from alcohol, in perfect general health, would have a peritonsillar abscess at intervals of one or two years; and at the time the edema occurred, the tonsillitis had lasted three days, when I first saw him. The right tonsil was involved and the most striking object on examining the throat, was the enormous uvula, filling up the space between the tonsils and causing great difficulty in swallowing. It resembled a nasal polyp; when it was incised, considerable fluid escaped, giving great relief. The edema disappeared after the evacuation of the peritonsillar pus collection, which was accomplished at the same time.

In some cases edema is a prodromal symptom of acute articular rheumatism, occurring as a symptom between attacks or seen in conjunction with gout. True gout in this relation is uncommon in this country, but is more frequent abroad and may show as an acute faucitis with edema of the uvula, which disappears as a gouty inflammation suddenly develops elsewhere. In such cases, described by Lermoyez[1] as acute pharyngeal gout, the edema is prominent and, as a prodromal symptom of a grave disorder, demands the most particular care. There is a sudden onset of faucial inflammation and fever, and the patient complains greatly of sore throat, but the pain is in excess of the objective symptoms, as the inflammation is limited.

1. Lermoyez: Ann. d. mal. de l'oreille, May, 1902.

The most conspicuous symptom, however, is uvular edema. There is never exudation, as in some other forms of tonsillitis, and after lasting for two or three days the symptoms disappear, to be replaced by an attack of gout elsewhere. Such pharyngeal symptoms, but less severe, may precede an attack of rheumatism, lumbago, sciatica, etc., and it will often be found that edema of the uvula is present, although frequently not observed by the physician, as it disappears in a few hours on development of frank rheumatism.

It has seemed to me that these cases may be divided into two fairly well-defined classes; those in which the organisms concerned in the throat affection possess excessive power of producing toxins and which are clinically characterized by edema in the throat and disturbance of the general metabolism, while in the other class the toxin production is limited and the organisms are characterized by local exudation. The arthritic diathesis at times seems to play a prominent rôle and, when a predisposed individual is exposed to chilling or dampness, pharyngitis or faucitis with edema is apt to ensue promptly, to be followed by an outbreak of so-called rheumatism. In another group of cases the throat manifestations are more mild, but characterized by the edematous uvula. There is fulness, increased during deglutition, the muscles feel rigid and the mucous membrane is inflamed. The edema, however, is not of sufficient intensity to cause serious symptoms, but is significant as a local expression of a general impairment of metabolism. The following patient shows this condition:

Case 3.—The patient, a man aged 25 years, runs an elevator and is continually in a draught. He had two attacks of sore throat the previous year in which the uvula only was involved; it was so swollen that he could not swallow food. Each attack was followed by rheumatism involving the knee, shoulder and ankle-joints. The present attack began with a sore throat which caused little annoyance for a week, when the uvula suddenly became swollen and prevented the patient from eating. Examination showed it to be purplish-red, edematous, with congested blood-vessels ramifying over the surface; and its tip, lying on the base of the tongue, produced a constant desire to swallow. Six hours later this entirely disappeared, the shoulder and knee-joint became inflamed and the patient suffered for several weeks with rheumatism, but had no further edema of the uvula.

In severe types of faucitis, as erysipelas or septic infections, edema of the uvula is nearly always an accompaniment and is most serious, as it signifies a grave type of infection with tissue destruction, while the imminent danger of glottic edema is always present. In erysipelas, either as an extension from the dermal surface or, more rarely, arising as a primary pharyngeal infection, the swelling is so great that even a small degree of edema has a most grave significance and its development seriously aggravates the dyspnea and general prostration. In chronic specific affections, as tuberculosis and syphilis, the development of uvular edema may occur late and is significant of destructive local lesions with grave general debility.

As an indication of serious organic changes in the kidneys, edema of the uvula should arouse suspicion, as it may be the only symptom of approaching uremia, although edema of the larynx is more frequently observed as a symptom in this respect. Edema of the uvula is rare in acute nephritis, but occurs in cases of scarlet fever, in which the edematous uvula represents both the virulence of the local infection and the subsequent toxic nephritis. F. Berine[2] reports an instructive case in a man of 35. There was an indefinite acute febrile attack with albuminuria, and the soft palate became edematous. The pharyngeal condition rapidly disappeared under treatment directed to the renal affection. While not frequent in chronic nephritis, except as a terminal symptom, it may be the first evidence of a general hydremia, the result of venous stasis, or may be part of a so-called nephritis pharyngitis, in which the mucous membrane shows atrophic disturbances with hemorrhagic streaks over the soft palate and posterior pharyngeal wall. In these cases it will be found that the local affection is the expression of a toxemia and, with but few exceptions, the kidneys are the underlying cause or, what is practically the same, there is high arterial tension with arteriosclerosis, and these organic changes show themselves both in the cardiac and renal structures. It may also be a prominent symptom of uremia in chronic nephritis, and then presents the most grave aspects, as the following case shows:

Case 4.—The patient, E. K., a man aged 38, a machinist, used alcohol to excess for many years. When first seen at my clinic at the Stetson Hospital, he complained of dyspnea and dysphagia; the uvula was swollen, almost filling the faucial space and the larynx could not be seen. No history was obtained, as the patient was intoxicated, but there was no evidence of laryngeal involvement and the uvula was freely incised with considerable relief. As he lived close at hand, he was sent home and told to return if he had any difficulty with breathing, or if the improvement did not continue. Two hours later he was admitted to the hospital with great dyspnea and his wife stated that he had been constantly drunk for the past three weeks. He was weak, pale and sweating; could only whisper and could not lie down. The urine showed albumin, granular and hyaline casts and the condition was readily recognized as uremia. Under active treatment the uvula edema disappeared, but the general condition became worse; the patient developed wild delirium and died on the third day. In this instance the fatal termination was from the toxemia and not from the edema, as the latter entirely disappeared before death.

While edema here does not produce a lethal issue, it always presents a serious aspect on account of the danger of laryngeal involvement, and this is especially true in that group of vasomotor cases which are angioneurotic in character. Such cases represent a local manifestation of a general condition, intestinal toxemia at times being the underlying factor. An instance of this kind is reported by Gardier,[3] in which edema occurred two hours after a meal, relief being obtained by active purgation. The swelling of the uvula in angioneurotic edema may be enormous, with great difficulty in swallowing and symptoms of suffocation, but active treatment gives prompt relief from the terrifying symptoms. For a time it may be the only symptom and cause great concern, or it may appear in conjunction with wheals on the dermal surface, while in several cases which I observed, it disappeared on the outbreak of localized swelling of the skin. A similar case was reported by Ballinger,[4] in which edema of the pharynx suddenly appeared in a nervous young woman suffering from hay-fever, then rapidly disappeared, to be replaced by an attack of urticaria. Likewise, Hinsdale[5] reported a case in which the body was covered with urticaria, the uvula was edematous and allowed the entrance

2. Berine, F.: Rev. de méd., Paris, November, 1899.
3. Gardier: Echo méd. du nord, Aug. 8, 1897.
4. Ballinger: Jour. Laryngol., Rhinol. and Otol., May, 1896.
5. Hinsdale: Philadelphia Polyclin., 1898, vii, No. 31.

of air only, with difficulty, but there was no swelling of the laryngeal tissues. Such conditions may occur in digestive disorders or following operation with considerable traumatism, and may also be associated with intranasal changes such as acute inflammation with pus formation. Acute nasopharyngeal inflammation may be its cause when its gravity is dependent on the degree of infection.

So far as drugs are concerned in the production of edema, it can be appreciated that corrosive poisons, when swallowed, may produce it, but other than this the presence of edema would hardly suggest such a factor, although Price-Brown[6] saw a case in which, following the application of 10 per cent. cocain to the nasal chambers, edema of the uvula rapidly ensued several times, spontaneously disappearing a few hours later. In a case recorded by Ward[7] edema followed a large dose of scopolamin. Many miscellaneous causes may play a part in its development, but in the majority of cases traumatism, either direct or indirect, is a most important factor. The former is illustrated by the edema caused by swallowing corrosive poisons, or by acids and burns, but in such cases it presents little significance, as the effect of the poison is of greater import elsewhere and its only significance is in indicating other grave conditions. In this connection a case is reported by Foster,[8] in which a man of 54 years drank scalding coffee; there was severe pain localized to the soft palate and the voice was lost. Examination revealed the arches and tonsils concealed by the greatly distended uvula; there was no edema of the larynx, and cure was obtained in a short time.

Edema of the tip of the uvula, resembling a drop of fluid, is frequently found and causes little concern. Nocturnal mouth-breathing is a not infrequent factor, while the hawking of many individuals with postnasal catarrh, in their efforts to remove inspissated secretion, is also a traumatic cause. Reardon[9] reports a case of edema caused by attempts to dislodge crusts from nasal suppuration. Vomiting may act in the same manner; Shurly[10] reports such a case, in which vomiting produced great intumescence of the uvula.

The question arises as to why the uvula should present edema in such a number of conditions, some only local and of little import, while others, such as those associated with renal lesions, present the most grave significance. Two factors are especially concerned in the mechanism, one already mentioned, that of traumatism, and the second, the structure of the uvula. At this portion of the palate the mucous membrane is thicker and less compact than that of other parts, especially so at its tip, so that it tends to favor the production of serous exudation here rather than at other points. In addition, edema occurs where the submucosa is well developed, and such is the case here to an unusual degree, as the bulk of the uvula is composed of areolar tissue with a loose-meshed arrangement of the cells, so that even slight congestion may be accompanied with a rapid development of edema. The size of the uvula plays some part in this respect, as, when large and broad, it is more apt to show edema than when thin or short, the latter form usually showing a drop on the tip, while the broad uvula presents a massive type with serous exudation in the deeper layers.

The symptoms vary from slight tickling or scratching to a feeling as if a foreign body was present and producing suffocation. Where edema is slight the subjective symptoms may be absent, while there may be considerable dropsy unnoticed by the patient on account of the severity of the local conditions producing it, such as a peritonsillar abscess. In many cases the condition is most harassing because of the constant attempts to clear the throat and on account of the irritation of the tongue and epiglottis by the enlarged uvula; nausea and vomiting may be produced, while a hacking cough is frequent. The voice becomes hoarse and this hoarseness is enhanced in severe cases by excessive mucous secretion. All the symptoms are aggravated by the recumbent posture, and if the edema is extensive it is impossibe for the patient to lie down without attacks of suffocation.

The appearance depends on the amount of serous exudation and, while in the majority of cases its original form remains preserved, yet, when the edema is excessive, it loses its outline and may become corrugated, or appear as a semitransparent ovoid mass. Finally the color may be significant of the proximate etiologic factor, for when the edema is the result of passive congestion the uvula is gray or blue-gray, like a translucent grape, while the inflammatory type, indicative of local changes, is characterized by a red hue increasing in intensity as the intumescence becomes augmented, until, in excessive infiltration, the vascular stasis is productive of a purple color. The color alone, however, is of little value, as the edema can never be mistaken, but the important factor is its grave significance in some cases and the necessity in all cases of ascertaining the underlying factors concerned in its production.

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6. Price-Brown: Diseases of Nose and Throat, F. A. Davis Co., Philadelphia, 1900.
7. Ward: Philadelphia Med. Jour., Nov. 12, 1898.
8. Foster: West. Med. Jour., October, 1898.
9. Reardon: Boston Med. and Surg. Jour., May 17, 1898.
10. Shurly: Diseases of Nose and Throat, D. Appleton & Co., New York, 1900.

ULTIMATE RESULTS IN THE TREATMENT OF PULMONARY TUBERCULOSIS WITH MERCURY SUCCINIMID

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The treatment of pulmonary tuberculosis with mercury has been highly extolled in the past few years by Dr. Barton Lisle Wright, of the United States Navy. The results obtained seemed so remarkably successful that a series of cases were selected and were placed under the mercury treatment.

A variety of cases were selected in an endeavor to ascertain in which type the treatment gave the best results. The classification of the different stages of the disease is the same as the one adopted by the National Association for the Study and Prevention of Tuberculosis.

The treatment consisted in the administration of a sterile solution of mercury succinimid in 1/5 gr. doses every second day, as advocated by the originator of this method of treatment. The hypodermatic injections were given into different portions of the body, including the buttocks, loose tissues of back and abdomen, and into the deltoid muscle. An attempt was made to administer the mercury intravenously and several injections were given into the median basilic vein. The intravenous route, however, was soon abandoned, as it proved unsatisfactory since it required some preparation of the

part and carried with it the element of danger of a possible thrombus formation.

The injections into the deltoid muscle seemed to have been preferred by most of the patients for the following reasons:

1. The part was easily exposed and easily sterilized.

2. The patient did not suffer any discomfort from sitting, as was often the case when the injections were given into the buttocks.

3. The patient could sleep and turn from side to side without suffering from the painful swelling which would often result at the site of the injection.

Twenty cases in all were selected, there being ten men and ten women in the series. The enumeration of the patients is in the order of the number of the injections that each had received. The hygienic and dietetic treatment of the patient was not changed during the period in which the mercury was administered. The patients were given the regulation amount of milk and eggs and were encouraged to spend more of their time in the open air. The examination of the sputum was performed in all cases, the urine and feces of many of the patients were also examined for tubercle bacilli, and blood-cultures were made in over one-half of the cases. Only those patients were selected who showed undoubted signs and symptoms of the disease, who had been for a long time under observation and whose cases were in the majority of instances of a chronic, non-active and generally favorable type.

The range of ages of the men was 20 to 55 years; average 41 years; the range of ages of the women was 18 to 62 years; average, 38.4 years.

The types of cases included in the series were as follows:

Incipient—arrested or stationary	2
Incipient—slowly progressive	2
Moderately advanced—had improved under hospital treatment	2
Moderately advanced—apparently cured	2
Moderately advanced—stationary or arrested	6
Moderately advanced—showing slow deterioration of general condition	1
Miliary—bed patients, progressive	2
Advanced—bed patients, progressive	2
Laryngeal—moderate advancement in lungs	1

According to activity of disease the cases may be classified as follows:

Arrested, stationary and apparently cured, 10 cases. 50 per cent.
Improved under general treatment, 3 cases. 15 per cent.
Active, with local or constitutional symptoms, 7 cases. 35 per cent.

In view of the very striking ultimate results it has not seemed necessary to attempt to describe the course of the patients' condition during the treatment. In a general way it may be said that some showed temporary improvement in their condition, but it could not be very definitely attributed to the mercury, as it differed in no way from that in the non-treated cases. All the patients were receiving the general hygienic and dietetic treatment at the same time. Eventually, however, all the patients began to deteriorate, almost in direct proportion to the number of injections that each had received. From a careful study of the cases during the course of treatment it was observed that mercury had no specific effect on the course of the disease, and showed no tendency toward checking the local involvement in the lungs. Several patients (Cases 1, 3, 5 and 6) showed temporary improvement in their general condition, but it was probably due to the therapeutic action of the mercury in the associated anemia. These patients, however, shortly afterwards began to fail in health, and the deterioration was more rapid than in those who had not received the mercury. The quiescent lesions in the lungs became active, infiltration into the healthier tissues of the lungs occurred, cough and profuse expectoration and marked constitutional symptoms became progressively worse, thereby causing grave nutritional disorders, until the patient finally succumbed to the disease. A predisposition to hemorrhage manifested itself in several cases (Nos. 1, 3 and 7), particularly in the fibroid type, and it was the immediate cause of death in two (Cases 1 and 7). Salivation and pains in the bones developed in three of the cases (Nos. 3, 4 and 15), and treatment had to be abandoned on this account. Two of the patients, who received thirty injections each, had a positive history of a syphilitic infection during their earlier life (Cases 2 and 3), and the mercurial injections in these two patients were borne with greater impunity; one of the patients (Case 3) was alive fourteen months after the last injection with slight changes in his general condition, but occasionally was confined to bed on account of hemoptysis, or for a transient pleuritic affection. The only other patient (Case 4) who is alive, of the group that received six or more injections, is now suffering from a pyopneumothorax and has had several aspirations performed. For the past two months this patient has lost rapidly in weight, is very weak, and death with her is only a matter of weeks.

ENUMERATION OF PATIENTS ACCORDING TO NUMBER OF INJECTIONS AND ULTIMATE RESULT ONE YEAR AFTER TREATMENT

Case.	Injections.	Result.	Case.	Injections.	Result.
1.—D. F.	30	Dead	11.—E. D.	10	Dead
2.—N. B.	30	Dead	12.—M. F.	8	Dead
3.—J. M.	30	Living	13.—T. M.	8	Dead
4.—M. M.	22	Living	14.—F. B.	6	Dead
5.—M. N.	15	Dead	15.—W. H.	4	Dead
6.—M. D.	15	Dead	16.—J. J. K.	4	Living
7.—J. O'D.	12	Dead	17.—R. H.	4	Living
8.—R. S.	10	Dead	18.—M. R.	3	Living
9.—J. H.	10	Dead	19.—M. C.	2	Living
10.—J. K.	10	Dead	20.—A. S.	2	Living

One year after the treatment had been discontinued the following results were noted in the patients who had received the mercury injections. Of the fourteen patients who received six or more injections twelve died from two weeks to six months after the last injection. Of the remaining two (Cases 3 and 4) of the fourteen patients who are alive, one (Case 3) has had repeated hemorrhages and is occasionally confined to bed, the other (Case 4) has had several aspirations because of pyopneumothorax, and is rapidly failing in health. This enormous percentage of deaths, namely, 85.7 per cent., among those patients who received six or more injections, can be attributed only to the use of mercury, simply from the fact that the expectation of life in many of the cases chosen was very favorable indeed. In fact, on account of the age of the patients and the chronic arrested type of the disease, they were the kind of patients who live long and have a favorable prognosis. Further, it may be noted that of the six patients who received four injections or less, five are alive and only one (Case 15) died, giving a mortality of only 16.6 per cent. as compared with the mortality of 85.7 per cent. of those who received a greater number of injections. Of the patients who had received the fewest injections, 83.4 per cent. are alive, while only 14.3 per cent. are alive of those who had received a greater number of injections.

To sum up, of the fourteen patients who received six or more injections, twelve, or 85.7 per cent., died, and

two, or 14.3 per cent., lived. Of those who received four injections or less, one, or 16.6 per cent., died, and five, or 83.4 per cent., lived.

CONCLUSION

From the above results the only deduction that can be drawn is that mercury, as recommended, has utterly failed as a specific agent in the treatment of pulmonary tuberculosis, and is positively injurious and detrimental to one afflicted with tuberculosis.

I am greatly indebted to Dr. A. P. Francine and Dr. H. R. M. Landis for the many suggestions offered in the preparation of this paper.

REPORT OF CASES

CASE 1.—Thirty injections.

D. F., a white man, aged 20, single, bookbinder, came under observation Sept. 20, 1908; died Aug. 25, 1909.

Type: Incipient, active.

The patient was well developed, well nourished and of medium stature. Infiltrations in both upper lobes were slowly progressive.

Result: The patient improved for five weeks, then began to fail in health rapidly, had several hemorrhages and died six months after last injection.

Reason for discontinuing treatment: poor health, hemoptysis.

CASE 2.—Thirty injections.

N. B., a white woman, aged 34, married, housewife, came under observation Oct. 30, 1908; died March 3, 1909.

Type: Moderate advancement, stationary.

The patient was a frail woman of medium stature and showed several resulting lesions of a previous syphilitic infection.

Result: She did not improve, but failed in health and died three months after last injection.

Reason for discontinuing treatment: Failing health.

CASE 3.—Thirty injections.

J. M., a white man, aged 45, married, a laborer, came under observation July 3, 1908, and was alive April 1, 1910.

Type: Moderate advancement, stationary.

The patient was large, well developed and fairly well nourished, with a history of a previous syphilitic infection.

Result: He improved for several weeks; a few months later hemorrhages developed which confined him to bed. One year after injections the patient is alive, but much weaker.

Reason for discontinuing treatment: Patient began to show signs of salivation.

CASE 4.—Twenty-two injections.

M. M., a white woman, aged 34, married, housewife, came under observation Dec. 17, 1906, and was alive April 1, 1910.

Type: Moderate advancement, stationary or arrested.

The patient was well developed, well nourished and of short stature, with no constitutional symptoms.

Result: There was no apparent improvement. The patient is alive one year after last injection in a very much weakened condition, and is suffering from pyopneumothorax.

Reason for discontinuing treatment: Salivation.

CASE 5.—Fifteen injections.

M. N., a white woman, aged 34, widow, housewife, came under observation Nov. 12, 1908; died Jan. 18, 1909.

Type: Advanced, progressive.

The patient was of medium stature, of fair development and nutrition.

Result: There was slight improvement for two weeks, then she failed rapidly in health and died one week after last injection.

Reason for discontinuing treatment: Patient very weak.

CASE 6.—Fifteen injections.

M. D., a white woman, aged 47, widow, housewife, came under observation Aug. 26, 1908; died March 29, 1909.

Type: Moderately advanced, progressive.

The patient was of small stature, of fair development and poor nutrition.

Result: She showed slight improvement for two weeks, but died two months after last injection.

Reason for discontinuing treatment: Patient refused injections.

CASE 7.—Twelve injections.

J. O'D., a white man, aged 48, single, a laborer, came under observation April 9, 1909; died March 14, 1909.

Type: Moderately advanced, progressive.

The patient was large, of good development, good nutrition and with no constitutional symptoms.

Result: There was no change in condition during treatment. Four weeks after last injection the patient had several severe hemorrhages and died two weeks later.

Reason for discontinuing treatment: Patient refused injections.

CASE 8.—Ten injections.

R. S., a white woman, aged 32, married, housewife, came under observation Dec. 16, 1908; died Jan. 8, 1909.

Type: Miliary progressive.

The patient was of large stature, good development, good nutrition.

Result: The first two injections were followed by a drop in temperature from 104 to 98 F. The patient failed rapidly in health, and died two days after last injection.

Reason for discontinuing treatment: Death.

CASE 9.—Ten injections.

J. H., a white man, aged 40, single, a laborer, came under observation Oct. 14, 1908; died May 8, 1909.

Type: Moderately advanced, improved on hospital regime.

The patient was of good development and good nutrition.

Result: There was no improvement. The patient progressively failed in health and died four months after last injection.

Reason for discontinuing treatment: Patient refused injections; felt worse.

CASE 10.—Ten injections.

J. K., a white man, aged 31, single, a laborer, came under observation Oct. 23, 1908; died July 31, 1909.

Type: Incipient, slowly progressive.

The patient was of good development, good nutrition and apparently in robust health.

Result: There was no change; four weeks later the patient began to show signs of slow deterioration and died six months after receiving last injection.

Reason for discontinuing treatment: Hard painful swelling.

CASE 11.—Ten injections.

E. D., a white girl, aged 18, single, a bookbinder, came under observation Oct. 19, 1908; died Jan. 5, 1909.

Type: Miliary, progressive.

The patient was of small stature, frail development and fair nutrition.

Result: There was no improvement. The patient failed rapidly in health, and died three weeks after last injection.

Reason for discontinuing treatment: Rapidly failing health.

CASE 12.—Eight injections.

M. F., a white woman, aged 24, single, a factory girl, came under observation June 5, 1908; died Jan. 6, 1909.

Type: Moderately advanced, improved under hospital regime.

Result: The patient became worse under mercury injections, and died two weeks after last injection.

Reason for discontinuing treatment: She asserted that she felt worse; refused injections.

CASE 13.—Eight injections.

T. M., a white man, aged 38, single, a fireman, came under observation June 20, 1908; died Dec. 27, 1908.

Type: Advanced, progressive.

The patient was of medium stature, fair development, poor nutrition and asthenic.

Result: The patient became worse and died one week after last injection.

Reason for discontinuing treatment: Death.

CASE 14.—Six injections.

F. B., a white man, aged 55, widower, laborer, came under observation Oct. 26, 1908; died Feb. 15, 1909.

Type: Moderate advancement, stationary.

The patient was of small stature, poor development and fair nutrition.

Result: There was no improvement. The patient died six weeks after last injection.

Reason for discontinuing treatment: Patient refused injections.

CASE 15.—Four injections.

W. H., a white man, aged 43, widower, plumber, came under observation Dec. 10, 1908; died May 7, 1909.

Type: Laryngeal, moderate advancement in lungs.

The patient was a well-developed adult and of fair nutrition.

Result: He became salivated after four injections, complained of pain in bones, and died four months later.

Reason for discontinuing treatment: Salivation.

CASE 16.—Four injections.

R. H., a white woman, aged 46, widow, housewife, came under observation Sept. 15, 1908, and was alive April 1, 1910.

Type: Incipient, arrested.

The patient was of good development and good nutrition.

Result: There was no change, and she is practically in same condition one year later.

Reason for discontinuing treatment: Painful swelling.

CASE 17.—Four injections.

J. J. K., a white man, aged 49, a single laborer, came under observation Dec. 7, 1907 and was alive Dec. 10, 1909.

Type: Moderate advancement, apparently cured.

The patient was of large stature, of good development and good nutrition.

Result: There was no change in condition; one year later the condition is same as when treatment was discontinued.

Reason for discontinuing treatment: Patient refused injections.

CASE 18.—Three injections.

M. R., a white woman aged 62, single, engaged in housework, came under observation April 1, 1907, and was alive April 1, 1910.

Type: Moderate advancement, apparent cure.

The patient was of frail development and fair nutrition.

Result: There was no change and the patient is alive one year later in same condition.

Reason for discontinuing treatment: Patient refused injections.

CASE 19.—Two injections.

M. C., a white woman, aged 53, single, engaged in housework, came under observation Feb. 16, 1907, and was alive April 1, 1910.

Type: Moderately advanced, stationary.

The patient was a well-developed adult woman of good stature and fair nutrition.

Result: There was no change, and the patient is alive in practically same condition as a year ago.

Reason for discontinuing treatment: Patient refused injections.

CASE 20.—Two injections.

A. S., a white man, aged 39, a single laborer, came under observation Oct. 11, 1908, and was alive April 1, 1910.

Type: Incipient, arrested.

The patient was of good development and fair nutrition.

Result: There was no change in condition, and the patient is alive one year later in same state of health.

Reason for discontinuing treatment: Patient refused injections.

1002 Jackson street.

Pannus in Trachoma.—The distinguishing features of pannus are innumerable small blood vessels tortuous in their course, running down through the cornea. It may involve only the upper part or all of the cornea. If much of the cornea is involved, or if the disease is not early arrested, there will be changes in the corneal epithelium, resulting in haziness of the tissue, which is rarely entirely absorbed after the disease has been arrested. The younger the subject, the better will be the chances for complete absorption of the exudate.—C. B. Wylie, in *Journal of Ophthalmology and Oto-Laryngology.*

PLASTIC SURGERY OF THE PELVIC STRUCTURES*

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As the members of this Section know, this is not the first time that I have addressed it on the subject chosen. I seek this opportunity because, I confess in advance, I am greatly disappointed in the results obtained by surgeons in various parts of the country. Patients come to me from widely scattered localities, having been operated on by surgeons of repute and of ability beyond question. Of course, it should be borne in mind that the cases thus seen are exceptional. If the experiences teach anything, the criticism applies to the method, rather than the operator.

REPORTS OF CASES

In illustration of this I shall cite three recent cases in young, healthy women.

CASE 1.—Mrs. B., aged 29, underwent instrumental delivery of a large child. An extensive laceration of the perineum, not involving the rectum, resulted. Six weeks after the delivery she was operated on by two of the leading surgeons of her city. On her admission to my hospital there was a marked cystocele, the cervix protruding through the vulva, with a pronounced rectocele. The posterior wall of the vagina had been cut away, leaving only a thin band of cicatricial tissue covering the rectum. The uterus was enlarged. There was a deep, double laceration of the cervix, with eversion.

A large, elliptical portion of the thickened anterior vaginal wall was excised and the anterior pelvic floor coapted by a line of deep, double buried tendon continuous sutures. The anterior vaginal wound was also closed by a single line of buried tendon sutures. The everted, lacerated cervical wounds were resected and closed with continuous tendon sutures. The perineal dissection was of course very difficult, but lateral flaps were secured by a deep dissection on either side, exposing the transversi, which were coapted and held in place by a double continuous buried suture. The posterior vaginal flaps were coapted by a single line of running buried sutures. An iodoform wool tampon in the vagina was the only dressing. The convalescence was easy and uneventful, and the restoration to the normal condition complete.

At the time of discharge from the hospital it would have been difficult to determine that the patient had ever been pregnant.

CASE 2.—The patient was a woman, aged 22. Conditions were so nearly like those in Case 1 that they do not require recapitulation.

CASE 3.—The patient was operated on a little more than a year ago by a leading surgeon in one of our Boston hospitals, and as in previous cases there was complete prolapse of the cervical portion of the uterus, with a marked cystocele and rectocele. Although in good general health the patient had been a great sufferer and a complete invalid for the entire year. Here also the posterior wall of the vagina had been dissected away, leaving very little covering to the rectum, but the pronounced feature was a constant purulent discharge from the vulva on both sides. This had been attributed to suppuration of the Bartholin glands. Much to my surprise the dissection revealed a long stay suture of silkworm gut, leaving a suppurating sinus throughout the entire tract where it had been buried.

These cases coming to me within a few weeks have impelled me to call the attention of the profession again to what I consider still a very common fault in technic. I must conclude that the basic principles of the operation are still in a measure misunderstood. A simple

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

definition of the term "plastic repair" of any of the pelvic structures would be to restore them to their normal anatomic relationships. The time at my disposal permits only the briefest reference to the anatomy and function of these most important structures.

The transversi muscles, interdigitating and blending with the great levator group, with the associated fascia, are the recognized supports of the pelvic floor. Their central juxtaposition forms the much-discussed perineal body.

REPAIR OF PELVIC FLOOR

The reunion and restoration of these sundered structures is the object sought by the surgeon. To reunite them they must be anatomically exposed. They must be retained in juxtaposition in aseptic condition and reunion or restoration necessarily follows. As I have long insisted, the dissection should be made by a free separation of about the posterior third of the vagina, quite to the crest of the rectocele, and sufficiently wide laterally to expose freely the torn retracted structures. This means a wound that, to one first seeing it, would seem unnecessarily large, but unless the dissection is wide and complete it is very difficult, often impossible, to obtain free access to the important structures thus widely and for a long time separated.

So far as possible, I deprecate the invention of new instruments unless they may be devised to accomplish an important purpose.

In the separation of the vaginal muscle from the rectum the cicatricial structures are often difficult of dissection. The cutting edge of the knife I use is at an angle of 45 degrees with the line of the handle. When the parts are held tense with the fingers in the rectum, the use of this knife facilitates dissection, especially of the retracted cicatricial attachment of the transversi muscles. I consider the needle important and have found no reason to change it in any material respect, since it was presented to the profession by me twenty-five years ago. It is strong, of convenient length, set in a handle with a marked curve and a modified Hagedorn point. The eye is of some importance, since the slot on either side catches and holds the suture, preventing it from slipping.

Two fingers of the left hand retained in the rectum during the operation aid materially in suturing. After a little experience it is easy to coapt and hold in retention the sundered structures with three or four strong double tendon continuous sutures. Light running sutures, best applied with the Hagedorn full curved needle easily coapt the less important structures, covering in the deep layer of sutures, while they themselves remain buried. If, for any reason it may seem desirable, it is perfectly easy to reform a hymen. The external wound is sealed with iodoform collodion, which, although it may loosen in two or three days, I consider a valuable protection from vaginal infection.

When the perineal rupture is complete, involving the sphincter and the bowel, the operation is almost as simple and easy. The vagina and rectal structures are carefully dissected. The rectum and sphincter are coapted, with a light line of double tendon sutures, the only care requisite being that they should be placed in aseptic structures. This slightly inverts the mucous membrane of the intestine. It is important to rejoin the sphincter fibers, as pointed out by Emmet many years ago. I sometimes use an independent suture of the sphincter muscle in order to secure a more firm coaptation. The posterior wall of the vagina is closed in a similar way, reducing the factors of the problem to those of an uncomplicated perineal laceration. The structures are sometimes so attenuated and the rectum so contracted that a successful operation requires patience, a careful dissection and a delicate technic but I do not now recall a single case in which I have not had a complete restoration anatomically, with complete restoration of function. In the rectum I use a large drainage-tube, with a cravat attachment of iodoform gauze, to be left for some days.

VESICOVAGINAL FISTULA

Almost every surgeon, even of to-day, is familiar with the monumental labors of my late great master, Marion Sims. The corner stone of his reputation was based on his cure of vesicovaginal fistula. As we review his operation from the standpoint of modern surgery and experience, we understand that his success was based on two factors. The first was his extraordinary skill in the careful dissection of the wound. I know of no operator to-day who excels, or perhaps, even equals the facile skill and dexterity attained by Sims. The second factor to which he attributed his crowning success was the use of silver wire sutures. These were applied with a skill which I have never seen equaled. Of course we now recognize that it was an aseptic suture, most difficult to apply and almost equally difficult to remove.

As I look back over the experience of those early years, I almost shudder over the worry and anxiety which I had in the imitation of the methods of this great man. I expected only to follow him afar off and never hoped to duplicate his great skill. As I now recall his experience, his first cure of vesicovaginal fistula was effected only after thirteen failures. Even to the end, his successes were the exception. The method which for a good many years I have employed first occurred to me after a considerable series of easy cures in cases in which I had closed wounds in the bladder from a variety of causes, from within the abdominal cavity. These were invariably simple in technic and perfect in result. A double continuous suture easily closed the wound with perfect coaptation, care being taken, of course, not to penetrate the mucous membrane of the bladder. Following this a retained catheter easily kept the bladder wall in a state of rest.

Profiting by this experience I made a wide dissection of the bladder from the vaginal wall and closed the bladder wound by a fine double tendon suture, which of course became buried. I then closed the vaginal wound as described in the operation for cystocele. The object of this extensive dissection was to obtain complete rest of the bladder wound during the process of repair, which is impossible when the vaginal attachment has been permitted to remain and the suture is taken through both the bladder and vaginal muscle.

Fortunately vesicovaginal fistula is far less common than formerly, and in the cases in which there has been a large destruction of the structures, the surgeon's skill and resources will be taxed to the utmost, but in every case of vesicovaginal fistula operated on as described I have had complete and seemingly easy cure.

HERNIA OF THE BLADDER

Hernia of the bladder, unfortunately, is often unrecognized and classed, in a general way, with cystocele. It is caused by the rupture of a portion of the strong fascia which goes to make up the pelvic floor. It may not be always easy to differentiate it from cystocele,

and differs from it chiefly in that in the latter the whole anterior pelvic fascia is relaxed instead of presenting a more severe lesion of it.

Its cure is equally easy and satisfactory. As in cystocele, it is generally wise to remove a certain amount of the anterior vaginal wall. Then it becomes necessary to make the lateral dissection sufficiently free to expose the strong pelvic fascia and intra-fold it by a carefully applied, medium-sized double tendon suture. Indeed, the operation differs so little, except in the recognition of its anatomic cause, that the surgical procedures are not unlike those for the cure of cystocele.

HEMORRHOIDS

Viewed from the standpoint of discomfort and suffering, the marked changes often seen in the hemorrhoidal structures hardly belong to the province of so-called minor surgery.

I consider the most important contributions to the technic of hemorrhoidal operations are those of Mr. Whitehead, now recognized and described in all textbooks. My modification of the operation consists in a free dissection, exposing the outer rim of the sphincter muscle and suturing the hemorrhoidal plexus of vessels just within its borders. This line of sutures is covered and buried by a careful rejoining with the finest of sutures.

Suturing at the base, before division, occludes the vessels and prevents hemorrhage. The delicate anal structures, carefully coapted and retained in an aseptic condition, unite primarily without suppuration, and when the sphincter muscle has been paralyzed by careful dilatation, these tissues are easily kept at rest with very little suffering. Here, too, I usually seal with iodoform collodion since the protection of the structures by it for even a day or two is important. Of course the rectum has been carefully cleansed and the large tube with the cravat of iodoform gauze applied. The three factors necessary for success are the following: first, the making of a free, skilful anatomic dissection; second, a careful reuniting of the weakened injured structures by the use of buried absorbable sutures, preferably kangaroo tendon, and, third, the making and maintaining of an aseptic wound.

I recognize more fully than my readers the almost dictatorial brevity of the description of this treatment of the above group of pelvic lesions. Any one of them might properly demand a detailed description covering the space given to the entire group. Some might consider that I have given undue importance to the personal factor of individuality in the description, but I am sure that any good surgeon, after a little practice, can do these operations equally well, or better.

I have long since ceased to tabulate in a numerical way these operations, since little is gained by enumerating the multiplied experience of years.

A distinguished English surgeon sometime since was present at an operation and made pertinent inquiry as to the percentage of failures. I referred him to the matron of my hospital, who replied with something of surprise: "Not one, Doctor, since I have been here." "But how long have you been with Dr. Marcy?" She replied: "More than twenty years." This statement may not be strictly true, but it is essentially so, and the credit belongs, at least in equal share, to the faithful, devoted services of my enthusiastic nurses.

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ABSTRACT OF DISCUSSION

DR. D. T. GILMAN, Columbus, O.: Dr. Marcy is probably the pioneer in the use of this absorbable suture and he is entitled to great credit for it. He gets results undoubtedly, but I cannot get the same results from an absorbable suture that he does. Dr. Marcy's method of introducing a couple of fingers into the rectum does not appeal to me. He has doubtless acquired an automatic asepsis from long practice that I would not have, and others would not have. I formerly used a knife for denudation, but I have practically abandoned it and have gone back to the scissors. If I have a good pair of scissors I do not need to have the fingers in the rectum: I simply put the tissues on the stretch.

DR. W. H. GILBERT, Evansville, Ind.: Dr. Marcy's technic, as we all know, is a technic unsurpassed. His results have the same uniform excellence. We all know that in the after treatment of perineorrhaphy it is extremely difficult to keep the region aseptic. I think the plan of sealing the parts with collodion is a most excellent one. Personally, I have ceased to use douches after perineorrhaphy. The technic I follow is absolutely dry. I use dry sponges, seal the parts with collodion and exercise the most rigid care in the after technic. Three times a day the perineum is thoroughly cleansed by bichlorid solution, and a bichlorid pack of dry gauze adjusted. I don't believe it is possible in the region of the perineum to secure absolute asepsis no matter how careful a technic is followed and no matter how carefully you wall off the perineum with towels, or how carefully the buried sutures are inserted. I have abandoned the routine use of buried catgut or kangaroo sutures in all parts of the perineum. I get the best results from non-absorbable sutures in the skin covering of the perineum and absorbable sutures in the muscles, fascia and vagina.

Eight weeks ago in a case of complete laceration there was operation immediately after delivery with non-union. Two weeks afterward a second operation was done by the same surgeon, which was a failure. The last operation was done by myself ten days ago. The line of laceration of the rectum was closed with catgut sutures with the knot on the inside of the perineum without any of the catgut being in the rectum. It is impossible to put absorbable sutures in the rectum and not have infection. Two deep sutures of silk-worm gut were inserted with the needle devised by Dr. Marcy. The one point necessary in the securing of good results is that alluded to by Dr. Marcy, viz., the excellent care given by the nurse, with rigid asepsis in the after treatment. We all achieve better results in the hospitals because of the aseptic technic more readily maintained. On the other hand, if the sutures are placed without proper care and regard for rigid asepsis and the wound not sealed with collodion it is almost impossible to escape infection of the perineum from purulent discharge from the uterus if it be infected. In many cases of old chronic endometritis complicating lacerations of the cervix and perineum, mixed cultures may be obtained at any time. It is very difficult here, especially when the cervix is torn at the same time, not to have more or less infection, but the end results are uniformly good.

DR. C. LESTER HALL, Kansas City, Mo.: I offer, with all due respect to Dr. Marcy, an improvement on the collodion dressing. I believe that if we will use instead an application of sub-iodid of bismuth, which with water makes a paste and a thorough protection of the parts, we will not have the infections so much dreaded. It is a preparation that can be easily applied and reapplied by the nurse after douching, is not readily removed by a douche and furnishes an impermeable dressing. It is not irritating, as collodion may be.

DR. GEORGE ERETY SHOEMAKER, Philadelphia: I want to express my appreciation of improvement in personal results since learning to use the buried continuous suture in perineal work and abandoning in nearly all cases the silkworm gut suture used for so many years. If the mucous membrane of the posterior wall of the vagina is preserved, none cut away, it forms an apron clear out to the edge of the wound. All discharges from the uterus and vagina are carried over and emptied outside, so to speak, lessening the chances of infection. Unlike Dr. Marcy, I prefer to keep all fingers clean

for use in the wound. Carefully palpating the two edges of the recti, bring them together by continuous suture, then follow on down toward the surface, uniting the fascia and more superficial muscles that have been separated. Thus one gets perfect restoration and healing in practically every case. The patient has so much more comfort from not having to have the sutures removed afterward.

DR. FRANK A. GLASGOW, St. Louis: I am surprised to hear the gentlemen speak of suppurations being so common, and also to have them decry the use of catgut. There has been much written about the repair of the perineum tending to confuse men and to make them think the operation far more difficult than it really is. Dr. Shoemaker anticipated what I wished to say, that he would preserve the posterior wall of the vagina. I do not think I have done a perineorrhaphy for twenty years in which I have removed the posterior wall of the vagina. It is an old operation, the same as Tait's, and one which I inherited from men before him, in which we simply raise up the posterior wall, extending the denudation up on either side of the vagina, up to the crest of the rectocele and then uniting the lateral parts. Under this procedure suppuration is the rarest thing in the world. There is no necessity for it, and I use chromicized catgut. Formerly I used the mattress sutures through from one side of the vagina and back again. Then when Tait taught us how to bury catgut I used that method and do not have suppuration. If a stream of water is used over the denudation down over the perineum carrying anything which should escape from the rectum downward suppuration will not occur and buried catgut may be used. There is no easier operation in gynecology than just this repair of the perineum, and every practitioner ought to be able to do it. Many men do not make a perineum. They simply denude a little and bring the skin together. You should raise up the posterior wall, extend the denudation high up into the vagina and on either side and bring the lateral walls together by buried sutures. You will thus have a good perineum and no suppuration.

DR. H. O. MARCY, Boston: A man works best with the instruments with which he is most familiar. The two fingers in the rectum help not only in the use of the knife but in the application of the suture, making a double shoemaker's stitch. When one becomes a little used to the method one will not mind the loss of those two fingers for other purposes. I am glad to have the value of the nursing emphasized. It is a large factor after we are through with our surgical work.

The late Dr. Jenks of Detroit was the first, so far as I know, to preserve the posterior vaginal mucous membrane as he called it. I was the student of Sims and Emmet, and delighted to try to imitate the dexterity with which they used the scissors. I have seen continuous backward and forward dissection with a pair of scissors as a girl would pare an apple without the infraction of the entire process. But I found that Dr. Jenks was not removing the mucous membrane but dissecting the posterior vaginal wall. That is very thin in most instances. Near the original lesion of the parts it breaks easily. That is why I like the knife. With scissors we are apt to cut buttonholes. It is important that one make a dissection of the posterior wall of the vagina and leave it intact. It is also important that one make use of modern aseptic methods. There must be a clean vagina, a clean uterus. In most instances one curettes, sews up the laceration of the cervix and then applies the iodoform dressing in the vagina. What I like best is to use it on a wool tampon. After this is completed it is an easy matter to seal the wound with collodion, and it remains for two or three days. The vagina is literally packed with iodoform wool and that is left alone for three or four days. That is the end generally of all the treatment. The rectum is almost always packed in the same way.

No one has referred to operation for complete laceration of the anterior or posterior vaginal wall. In the old days we were all greatly troubled by vesico-vaginal fistulas. My old master, Sims, taught me the use of silver wire, and we all had great agony over it. When I operated within the abdominal cavity for bladder injury I found that I obtained recovery without difficulty. Then it occurred to me that the reason we failed in vesico-vaginal fistula was that we had a cross-pull of the complex structures. Therefore, I separated the attachment of the vagina to the bladder, freshened the wound and then closed the bladder wall with a double continuous fine tendon suture, not unduly compressing the tissues. That, of course, is buried because the vaginal wall is closed over it, and in every single instance I have had just as easy recovery as I did when operating from within the abdominal cavity. If I could say nothing else, I should like to emphasize this point, that I believe this to be a very great advantage in my technic. It is comparatively immaterial how one applies the sutures. With coaptation, retention, and aseptic rest, good results will follow. With wounds treated in this way in my own hospital in several thousand cases there have been not 2 per cent. of failures in the last fifteen years.

PATHOLOGIC RELATIONSHIP OF ULCER AND CARCINOMA OF THE ALIMENTARY CANAL.*

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INTRODUCTORY

Any line of investigation which promises assistance in combating the spread of cancer is worth while. For, discounting to the utmost government census figures everywhere, there yet remains the facts, first, that cancer is increasing materially in relation to the total number of deaths from all causes, and, second, that it is increasing materially in relation to the total number of living. Speaking broadly, it is probably increasing more rapidly than any other of our diseases. And this increase is greatest in the most prosperous nations and in the most prosperous classes within such nations. Further, it attacks individuals at their highest productive period. It attacks particularly the primary organs of perpetuation of the individual, i. e., the reproductive apparatus. In the male approximately two-thirds and in the female one-fourth of all cancers develop in the alimentary canal, while one-half of all cancers of the female are in the reproductive organs.

It seems to us that in our consuming interest in the initial excitant or ultimate cause of cancer, there is a possibility of our losing sight of the importance of the study of the tissue conditions of the affected individual. When the relationship of bacteria to infectious disease was first brought to the attention of the scientific world for a long time the specific germ was the chief object of study. Experience soon taught us, however, that in combating infectious diseases it is even more important that we familiarize ourselves with those conditions of the body by which nature combats disease. We are apt to forget that if we knew to-day the primary irritant in carcinoma as well as we know the leprosy bacillus we might still be almost as helpless as we now are in controlling the disease. We would still be under the necessity of investigating most carefully the anatomic and physiologic condition of the tissues which permit the primary excitant, whatever its nature, to become effective.

CLINICAL EVIDENCE

From the purely clinical standpoint, probably the most salient points which present themselves in relation to tissue susceptibility to carcinoma are the following:

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1. Carcinomata of the reproductive organs in the female—one-half of all cancers in this sex—occur principally at the age when the reproductive organs have begun their regressive changes.

2. Carcinomata of the alimentary canal—two-thirds of all cancers in the male—follow in the great majority of cases chronic non-cancerous irritation.

ANATOMIC EVIDENCE

When once removed from the body, tumors of the alimentary canal are of relatively easy study, because of the comparatively simple anatomic relationships; the thin walls with well-defined laminæ and simple glands. The lips, mouth and anus are, of course, exceptions to this. When we examine carcinomata of the alimentary canal we find them in a great majority of cases developing on epithelial tissue which has been displaced either by ulcerative changes or by diverticula. An ulcer of the mucous membrane of the alimentary canal shows within its base usually only granulation tissue, all of the tubular glands having been destroyed. At the margin of the ulcer is an overhanging border consisting of hyperplastic mucosa. Where this hyperplastic area meets the eroded base is a ring in which are found islets of tubular epithelium which have been cut off from their connection with the outer world by bands of scar tissue.

The center of the ulcer, filled with granulation tissue, is almost always on a level with that of the normal base of the mucosa, within which is the ring containing segregated epithelium. The tendency of such islets of segregated epithelium is toward destruction by the cutting off of their blood-supply by scar tissue. In a careful study of these cell inclusions, however, we frequently find that many of the islets instead of degenerating show more or less proliferation of their cells. This is evidenced by their apparently increased number in a cross-section, by their mitotic figures and their dividing nuclei. Such inclusions are of frequent occurrence around the borders of all ulcers of the stomach, duodenum, gall-bladder, appendix and large intestine. It is probable that the proliferation of the epithelium within such inclusions is frequently stopped by the cutting off of the blood-supply, and that degeneration results. When, however, we study many lesions of this type, particularly within the stomach, we find that certain groups of epithelium show not only proliferation of their cell contents, but that the proliferating cells are infiltrating the surrounding tissues; that this is a true passage of the epithelium into the previously formed scar tissue. That the picture is not due to the presence of remains of included epithelium which has been only partially cut off from its normal site there can be no doubt in the mind of one who studies the sections with proper care. The epithelial cells which are insinuating themselves between the bands of fibrous tissue are not old degenerating cells, but are cells which are proliferating, as is shown by their staining reactions and their dividing chromatin. It is noteworthy that this proliferation is usually most marked in the portion of the epithelium-bearing ring which is furthest removed from the center of the ulcer with its scant nutrition. More than 70 per cent of all of our cancers of the stomach give satisfactory gross and microscopic evidence of previous ulceration and isolation of epithelium, while the evidence is equally clear in our cancers of the gall bladder. We have seen at no point within the alimentary canal any evidence that surface irritation, however prolonged, has anything to do with providing conditions suitable for the development of carcinoma. It seems to be a *sine qua non* that the portions of epithelium shall be displaced from their normal relationship, and this does not occur where superficial irritation alone is concerned, but only in ulcers and diverticula.

The relationship of small diverticula of the alimentary canal to carcinoma has not been fully appreciated, partly because the presence of the diverticula themselves have been but recently called to our attention. When Drs. Mayo, Giffin and Wilson placed on record our five cases of diverticulitis of the sigmoid three years ago, there were on record only eighteen previous cases. One of these presented a carcinoma of a diverticulum. The number of cases of diverticulitis has increased during the subsequent three years until there are now on record nearly one hundred cases. We have added five new ones to our list. In these five two are cases in which the operation was made primarily for well advanced carcinoma and diverticula were found in the base of the carcinoma. The epithelium within small diverticula is frequently quite as completely occluded from connection with the interior of the viscus as is that lying at the base of an ulcer of the stomach. Here, as in the isolated islets of epithelium within the stomach, the tendency of the segregated cells is to degeneration from reduced nutrition. They do, however, occasionally proliferate greatly and, as we have shown in three of our nine cases, they may also infiltrate and thus form carcinoma. When one goes over a number of cases of carcinoma of the sigmoid one is struck with the patch-like or ring-like character of all of the lesions, except those of the most advanced type. This is exactly the sort of tumor which one would expect to find developing on isolated epithelium within diverticula, and the two tumors whose origin, as we have demonstrated, has been on diverticula, are of exactly this type. In order to show the presence of diverticula in carcinomata of the sigmoid which have advanced to any extent, it is necessary to use the utmost care in examining the specimen while it is still fresh.

Sometimes with fresh specimens this can be done by very gently probing from the inner side of the tumor, or better still, by carefully slicing off the tumor from the serous surface and parallel thereto, and examining underneath each slice as it is removed. We are satisfied from our experience that many cases of carcinoma of the sigmoid and rectum have had their origin on diverticula which have been overlooked at operation, even when they were still undestroyed by the tumor.

In the last 5,000 appendices which have been removed at our clinic we have discovered twenty-two primary carcinomas. In reviewing these recently, Drs. MacCarty and McGrath have noted that all of these tumors have occurred in the tips of appendices which had been previously obliterated. This obliteration in all cases extended well proximal to the tumor, and showed the formation of scar tissue at some point proximal to the tip in greater quantities than in the tip itself. The glandular epithelium of the tip of the organ has been separated from the lumen of the caecum. Such epithelium is frequently found to show hyperplasia or adenomatous proliferation. In the twenty-two cases which we have found, however, there is much more than this, viz., an infiltration of the deeper layers of the appendix, resulting in unmistakable primary carcinoma.

In the tough fibrous stroma of the border of the lips it is difficult to make out microscopically any evidence of flat-cell inclusions. The lips of practically all adults

have been so frequently subjected to traumatic scars, ulcers, etc., as the result of nutritional disturbances that it would seem probable that such inclusions of the epithelium are frequently present. Carcinomas of the lip, however, usually come to the clinic so late that all microscopic evidence of their previous benign ulceration has disappeared, though the clinical histories recite such evidence in an unmistakable manner.

Within the mouth the relationship of ulcerating leukoplakia to subsequent carcinoma is established on a very firm clinical basis, though here, as in carcinoma of the lip, the patients most frequently come to operation at a period when all microscopic evidence has been swallowed up in the advance of the secondary disease.

To summarize, then, the results of our studies, we may say that in the alimentary canal, whatever may be the essential irritant—micro-organisms, ferment or what not—the fact remains that in a very high percentage of the cases there is microscopic evidence backing up clinical evidence that the carcinomata have developed on epithelial cells which have been previously isolated from their normal surroundings, either by the formation of diverticula or by being cut off by scar tissue in ulcer bases. This statement has in it neither support nor contradiction for any hypothesis as to the character of the essential irritant in carcinoma. Just as we must have tissue cut off from sufficient blood-borne oxygen in a punctured wound in order to permit development of the tetanus bacillus, so it seems that in the alimentary canal we must have tissue which is cut off from its relationship with the outside world in order to have the development within it of whatever may be the essential irritant of carcinoma. Whether this isolation of epithelium is a primary necessity for the formation of carcinomata throughout the body is another question. Certain it is that a similar condition exists in the female breast which is undergoing regression. Certain it is that similar conditions exist in the uterus, with its partially shed epithelium, with its frequent erosions, and with its regressing mucosa. Certain it is that a similar condition exists in the prostate as the result of inflammatory changes segregating islands of epithelium. Within the kidney true carcinomas are frequently associated with the ulcerated process secondary to nephrolithiasis, while the so-called "hypernephromata," on the other hand, are apparently the result of the proliferation of tissue which has failed to become connected embryologically with the portion of the tubular epithelium which is in direct relation with the renal pelvis. Indeed, as we look over the whole field of carcinomata we must agree with Adami that these tumors are the result of the development on either postnatally or prenatally displaced cells which exhibit a tendency to revert to the embryonic type.

The clinical bearing of all of this is in teaching the importance of the recognition and cure of those disease processes which, however benign in themselves, tend to isolate epithelium. There can be no question but that chronic ulcers of the mouth should be promptly cared for. Ulcers of the stomach should receive the most minute attention. The obliterating appendix, however innocent its look, should invariably be removed when found. Diverticula of any portion of the large intestine should be treated by complete removal rather than by a drainage of the abscesses which may be formed about their extremities. The greatest difficulty of course is in the early diagnosis, but that is without the province of this paper.

PATHOLOGIC MATERIAL STUDIED

167 cancers of lip.
46 cancers of mouth and tongue.
2 cancers of esophagus.
189 cancers of stomach.
15 cancers of gall-bladder.
22 cancers of appendix.
20 cancers of cecum.
42 cancers of remainder of colon.
67 cancers of rectum.

570

SUMMARY

Of the cases of cancer of lip 30 per cent. gave evidence of previous isolation of epithelium.

Of the cases of cancer of stomach 67 per cent. gave such evidence.

Of the cases of cancer of gall-bladder 33 per cent. gave such evidence.

Of the cases of cancer of appendix 100 per cent. gave such evidence.

Of the cases of cancer of cecum 10 per cent. gave such evidence.

Of the cases of cancer of colon 40 per cent. gave such evidence.

Of the cases of cancer of rectum 3 per cent. gave such evidence.

CONCLUSIONS

1. The relationship to cancer of simple chronic irritation of the unbroken free surface of the mucosa of the alimentary canal, as indicated by clinical data, is not readily demonstrable pathologically.

2. Scar tissue at the bases of ulcers, obliterations of the lumina of appendices, and diverticula segregate portions of mucous epithelium from the neighboring epithelium and from the lumen of the alimentary canal.

3. These portions of segregated mucous epithelium tend (a) to degenerate from pressure and diminished blood-supply, or (b) to proliferate and infiltrate the surrounding tissues, thus forming cancer.

4. These islands of segregated epithelium probably should be regarded as points of least resistance only, and requiring the presence of other factors for the production of carcinomata.

ABSTRACT OF DISCUSSION

DR. H. E. ROBERTSON, Minneapolis: We are all helpless in the presence of cancer. Sometimes we believe that malignant growths are preceded by absolutely normal structures; this morning we have had another view presented. Dr. Wilson's contribution is of great value in showing specimens which demonstrate at least one phase of the problem. The activities of epithelial cells may be grouped under two classes: first, that of function, such as secretion or absorption, and second, that of manipulation or proliferation. When for some reason or other the functional activity is checked, all the inherent capacity of the cell may be directed toward wild, uncontrolled proliferation. Such a process might be supposed to be working in ulcers and inflammatory conditions which in all probability precede many carcinomatous tumors of the gastro-intestinal tract. The functional activity is inhibited because of inflammation, and some of the cells continue to multiply unchecked by any normal balance. I do not believe that Dr. Wilson would, for a moment, claim that all cancers arise from ulcers or preceding inflammatory lesions nor would he give the impression that all ulcers of the digestive tract gave rise to carcinoma. His paper emphasizes what we have been taught for many years, namely, that some ulcers of the gastro-intestinal tract may show cancer arising on the old margins.

DR. J. N. HALL, Denver: I wish to speak about the diagnosis of certain conditions requiring gastro-enterostomy for

pyloric obstruction, and I base my remarks on a series of 71 cases in which ulcer has been found blocking the pylorus. In these cases, the patients were operated on by Drs. Freeman, Perkins, Craig, Lyman, Fleming and other Colorado surgeons. During the same time a diagnosis of peptic ulcer was made in 81 other cases, and a very probable diagnosis in 23 cases, 175 cases in all, indicating that 40 per cent. of my cases of ulcer seemed to me and to surgeons doing much of this work, to need gastro-enterostomy. I exclude here all cases of ulcer operated on for perforation or in which resection was done because of the probability of cancer, and all gastro-enterostomies done for cancer, congenital pyloric stenosis, etc. So far as I know, there is no exact parallel for the state of affairs which exists as to this diagnosis. Many physicians recognize the gastric ulcer which blocks the pylorus, whether it be by producing spasm, by its thickening effect on the mucosa, or by the production of scar tissue. But for every clinician who frequently sees these cases there are ten who practically never call on the surgeon for help in treatment. These men either do not recognize the condition or do not recognize the fact that surgical intervention is demanded. Yet many surgeons diagnose these cases and operate without either the professional assistance or the normal support of the internist. It is a strange fact that the surgeon in many of these medical cases makes a better diagnosis than the physician. A surgeon of one of the oldest and most famous hospitals in America told me a few weeks ago, when I inquired as to the treatment of pyloric obstruction, that he was ashamed to tell me how limited his experience was, since the medical men of that institution practically never referred such cases. Yet in that city another surgeon at another hospital does much of this work. There is much ground for criticism of the profession in that so much stomach work is done by so many men, but a small proportion of whom recognize the frequency of this condition, its ease of diagnosis. In most cases, the almost certainty of relief by surgical help, and above all the overwhelming evidence that the end of these patients is slow starvation or eventually cancer. From Rochester we learn that 71 per cent. of resections for cancer showed origin in an ulcer, and 68 per cent. of the resections for ulcer showed cancerous changes. Yet under the diagnosis of dilated stomach, atonic dyspepsia, gastralgia, gastrodynia, nervous prostration, etc., these patients go on toward starvation or cancer, or both. In 11 of my cases the ulcer had evidently existed for from 18 to 30 years.

While the medical men discuss the fine points of differential diagnosis, some good surgeon, or a medical man who stands daily by the operating table and sees what the living pathology of the abdomen reveals in the cases he refers to the surgeon, often intervenes and by timely operation restores the patient to health.

We found associations for the study of cancer, but allow patients with ulcer of the pylorus, the very mother of cancer, go on under treatment by alkalies, bismuth and pepsin, the latest diet, etc. knowing all the time that cancer of this region kills more people than any other form, that it is curable by operation under favorable conditions and by operation alone. I go so far as to say that I am convinced that pyloric ulcer is so likely to lead to cicatricial stenosis, if it ever does heal, or to cancer if it does not, that I personally would not submit to any but surgical treatment for such a condition, nor do I recommend prolonged medical treatment to my patients. And yet such is the conservatism in certain quarters that if a patient with dilated stomach escapes from the internist and is cured by the surgeon, the internist will almost say, as did the arrogant Viennese professor of 50 years ago when one of his patients to whom he had given a fatal prognosis recovered under a new line of treatment at the hands of one not a university professor: "You must have been treated wrongly."

DR. FRANK WILBUR FOXWORTHY, Indianapolis: I am an internist and I want to know the relationship between ulcer and cancer in relation to time; how much time elapses from the ulcer stage? I have under my care an old woman with ulcer near the pylorus of five years standing. She was on an albuminous diet for 6 weeks and then left the hospital free from symptoms for 13 months and she now weighs 168 pounds. Am I to believe that she is in danger of developing cancer or to suffer from the thoughts of expecting it the rest of her life?

DR. D. C. WALT, Little Rock, Ark.: I should like to emphasize a point which I think might be of interest to physicians as well as to surgeons and showing that we should know our limits. I have had an epithelioma, and I feel that I have been benefited both by the general management of my case as well as by the use of the *x*-ray which was applied by a Chicago physician. I feel that I am fresher to-day than I was ten years ago, and I do not attribute it all to the *x*-ray. Every cell organism, every animal organism is dependent on a general law, for its building process; it is a matter of waste and repair, of supply and demand. When we wait until the cell is dead, whether it is from abscess of the liver or in the tubule of the kidney, or carcinoma, the cell is dead and dead forever. We as animals, have attempted to interfere with Nature's method of living. Think of the results produced by our notions which interfere with Nature's laws of waste and repair. When the child is born, the mother places a napkin on it, making a barrier to elimination. When the child becomes older he is harnessed more securely and by the time he is matured he thinks he is living within Nature's law. One man develops arteriosclerosis, another carcinoma, another tuberculosis, all coming under the disturbances of waste and repair. We must recognize sympathetic nerves and their power to control the physical conditions, when properly influenced by the electromagnetic power.

DR. CHARLES G. STOCKTON, Buffalo, N. Y.: I feel that I ought not to allow the remarks made by Dr. Hall to go without some reply. It seems to me that his attitude toward the physician and the internist in the matter of treatment of acute ulcer as well as of chronic ulcer is wrong. I have no doubt at all that we do sometimes find cancer growing on the seat of a chronic ulcer; this certainly does occur, but not so often as one would infer from Dr. Hall's remarks. I have studied peptic ulcer carefully for years and I have had recurring cases under observation for many years and they did not develop into cancer. Furthermore, it is unnecessary in the majority of these cases of ulcer of the pylorus to resort to surgical treatment except in cases having definite and positive indications. It is unfortunate that so much importance should be attached to the scar tissue; it is unfortunate that anyone should take the position that when there is a scar as the result of a gastric ulcer, the case should go to the surgeon, because it often results in the subsequent ill health of the patient. If the cases were selected by discriminating men, if only skilful surgeons operated in such cases, we then might go further and advise operation oftener. But I have seen so many evil results from the employment of surgical methods on this part of the economy that the statements made by Dr. Hall seems to me misleading.

DR. RICHARD WEIL, New York: It seems to me somewhat questionable to interpret every instance of epithelial segregation or inversion as evidence of a tendency to carcinomatous degeneration. The presence of granulation tissue seems, as a rule, to carry with it a stimulus to this very sort of atypical epithelial proliferation. Consequently it is not a rare concomitant of chronic inflammatory processes in various parts of the body. Fisher and others have been able to produce similar results by means of chemical irritants, such as scarlet red, but they have not nevertheless produced true cancers. Occasionally, of course, cancer may originate in this fashion, but to assert on the basis of these microscopic changes that the majority of ulcers show a tendency to carcinomatous degeneration is an altogether different matter.

DR. JOHN A. LICHTY, Pittsburg, Pa.: The pathology which Dr. Wilson has shown us to-day is convincing, and I believe that he has established his point. I am led to recall, however, the appearance of uterine scrapings which have been looked on as suspicious of a beginning carcinoma. In some of those cases I have sent sections to the pathologist—in one case in particular to Dr. Welch, of Johns Hopkins—

which, to me, looked suspicious; yet Dr. Welch told me it was not malignant, and explained the condition very much as Dr. Weil has attempted to explain some of the lesions which Dr. Wilson has demonstrated. The subsequent history of these cases confirmed Welch's opinion. I am afraid Dr. Hall has drawn conclusions from Dr. Wilson's paper which are not relevant to the subject. I do not believe that in all cases of gastric ulcer, and those suspicious of gastric ulcer, the abdomen should be opened and the ulcer incised. This would lead to a great amount of unnecessary surgery and would expose patients to a great risk.

It will be recalled that in only 20 of the 5,000 cases of appendicitis was malignancy found. Now, we know, of course, that malignancy in the stomach is more frequent than in the appendix. I can agree with Dr. Wilson's conclusions as he has stated them, but I would not be willing to attach the conclusions which Dr. Hall has presented to us this morning.

DR. A. JACOBI, New York: All of us I believe have seen cases of gastric ulcer and also cases of gastric carcinoma. The diagnosis of ulcer of the stomach is not always easy; it is made by different persons differently, and their statistics differ. The surgeon with statistics taken from nothing but a surgical practice, or even a surgical hospital practice, will state that carcinoma of the stomach is very frequently encountered, that it is frequently complicated with gastric ulcer, and that there is a frequent connection between the two. He cannot tell you the reality about these statistics, when he forgets or overlooks the fact that they are the bad cases that have disappeared from the hands of the general practitioner to appear in the hospital wards, and that he sees these bad cases only, and not the average ones. The surgeon will report what he has seen, and so far he is correct. On the other hand, the man in private practice who sees the poor patient with ulcer of the stomach will say that ulcer of the stomach is a very common disease, and he will offer quite different and more favorable statistics; he is the one who can tell whether the case has terminated in hemorrhage or in carcinoma. The fact is that from a large number of statistics it has been found that there is about 3 per cent. of the cases of carcinoma occurring in the neighborhood of the pylorus which are on the scar resulting from an old ulcer. I see a great many of these cases of gastric ulcer and especially among the poor, the working people, male and female, small shopkeepers, etc.; these poor people work hard and may suffer weeks and even months before they consult a physician. Many will take care of themselves and they at times will recover in large numbers. We should compare the sources from which these people come to us. The general surgeon, the surgeon in private practice, the physician, the so-called internist, the physician who has a consultant practice only, or a large practice among the rich, the physician who has a large practice among the poor, all these men will give different statistics, and this is a point which we should all be made aware of. The general practitioner has the more correct statistics. I once suggested that 500 general practitioners should club together and all their cases of gastric ulcer with their outcome be collated and compared.

DR. HARVEY G. BECK, Baltimore: If we accept the fact that carcinoma of the stomach results from ulcers, then with a view of preventing the disease, we should consider the origin of the ulcer, and treat the underlying cause. We all recognize that there are different forms of ulcer of the stomach. For instance, we have the chlorotic form which occurs in girls. If the chlorosis is early diagnosed, and treated, we may prevent ulcers, and indirectly carcinoma. Another form of ulcer is the so-called catarrhal ulcer, which results from a chronic acid gastritis. Here again, if we treat the underlying condition—acid gastritis—we may prevent the ulcer, and the tendency to carcinoma. A third group may be classed as traumatic ulcer. These ulcers are due to an injury or irritation and are frequently the result of occupation. These cases certainly have a greater tendency toward the development of carcinoma, and if they do not yield readily to medical treatment should be treated surgically in order that carcinoma may be prevented.

DR. G. C. SMITH, Boston: During the last 10 years only 2 patients with carcinoma developing on the site of an ulcer of the stomach have appeared in my office. Of the other cases I have had under observation, none has so far developed into cancer. I do not think we are justified in treating these patients along the lines suggested, because there is a possibility of cancer developing on old scar tissue, any more than is the man who treats skin disease who goes on and feels that he must treat the patient indefinitely with mercury. The idea prevails that such a patient has practically recovered from syphilis and that he must be left alone until something develops later, when a short treatment should again be given. I can easily understand the position assumed by Dr. Wilson in his paper. As Dr. Jacobi has so well expressed it, any statistics to be of value depend quite as much on our interpretation of them as upon the mere statement of the anatomic findings. One man has reported many patients with cancer of the stomach operated on, and in many of them he reports that the cancer has developed on an old scar tissue. He is justified in reporting such cases. But he has not seen cases as have Dr. Jacobi, Dr. Stockton, and others, in which the patients were not operated on. Some statistics are given which apply only to those patients who developed cancer; not all individuals, however, develop cancer on scar tissue. It must be remembered that 50 per cent. of patients with tuberculosis recover; this is the report from Prof. Kolisko of Vienna, where it is said that there are more cases of tuberculosis than in any part of the world. But Prof. Kolisko does not state that these patients do not subsequently develop tuberculosis. We cannot state positively that a person has been permanently cured of tuberculosis; we do know, however, that he may become apparently well. This is our interpretation of the facts.

DR. FRANK SMITHIES, Ann Arbor, Mich.: I wish to act as a sort of mediator between Dr. Stockton and Dr. Hall. There is a middle ground in the consideration of gastric ulcer and gastric cancer, that is, in regard to the prognosis, whether medical or surgical, as well as in the treatment. It depends to a large extent on the location of the gastric ulcer. I think that it is poor practice to hand these patients over to the surgeon for exploratory operation, or operation of any kind, without having at least made an attempt to determine the position of the ulcer and its effect on the motor power of the stomach. If an ulcer be situated near the pylorus and we have every reason to believe that it has healed, with a resulting scar which produces a certain amount of obstruction to the free emptying of the stomach, I think it is an extremely unwise practice to treat such a patient for a gastric ulcer indefinitely; he is bound to become a chronic dyspeptic when by an operation in the hands of a competent surgeon he can be made a useful citizen and not be left a chronic invalid. Ulcers seem to be very favorably situated for the development of carcinoma when placed where they are constantly subjected to irritation. On the other hand, it is a fault of the internist to recommend operation in all cases of simple ulcer situated in any part of the stomach which has no influence on the stomach so far as its motive power is concerned. Of course in all cases one must make an exact diagnosis. I wish to call attention to the constant and repeated examination of the stools for occult blood, not making a haphazard examination for this occult blood, but making a careful and painstaking examination of the stools that have been properly prepared for such an examination, that is, after an absolutely meat-free diet for at least three days. Another point is to examine the blood serum carefully with the idea of discovering the hemolytic reaction. This is a point which I will not debate at present. However, in carcinoma we may expect positive reaction; whereas in ulcer we do not. Again, one might speak of a very careful examination of the interior of the stomach by means of the gastroscope, but always in the hands of an expert.

DR. THEODORE POTTER, Indianapolis: It seems to me that in the discussion so far we are hardly fair to Dr. Wilson. We seem to have engaged in a general quarrel as to the diagno-

sis and treatment of gastric ulcer, with which he really had nothing to do. He comes to us presenting a careful pathologic study which he hopes may throw some light on the question of the factors which enter into the development of carcinoma. He has shown us that in a considerable proportion of the cases in which the disease has developed, and which have followed ulcer of the stomach, certain things take place and which are very significant. We must recognize them as being significant too. Dr. Wilson has presented studies which certainly will throw some light on this problem as to what is the cause of gastric cancer. With regard to the diagnosis and treatment of ulcer of the stomach, and the question as to what we are going to do about it, this certainly is not Dr. Wilson's affair; that is our quarrel. But please let us be just to Dr. Wilson and show appreciation for the work that he has done and is doing for us.

DR. LOUIS B. WILSON, Rochester, Minn.: No doubt there are cases of cancer of the alimentary canal that have occurred without any previous epithelial segregation. We have one such, a case of carcinoma of the stomach. We have also 5 cases of carcinoma or ulcer of the stomach in which there is a proliferation, or beginning inversion of the epithelium, but I am not prepared to say that they are cases of carcinoma. Every case that I have shown to-day and 183 out of our 189 showed carcinoma in the glands or walls of the stomach. From a pathologic standpoint we are changing our methods of diagnosis. We used to wait until a "lump" was discovered before we diagnosed the case as one of carcinoma of the stomach. This we no longer do. We should not criticize Dr. Hall too severely for his statement that 68 per cent. of the cases resected for ulcer showed cancerous changes. Few known ulcers are excised and there are many in which the surgeon is doubtful as to the diagnosis. The relationship between carcinoma and ulcer so far as we can show is that in many chronic ulcers there is a segregation of epithelium on which carcinoma may develop. Not every person who is exposed to typhoid develops that disease; nor does every person who has been exposed to diphtheria develop diphtheria. The same statement may apply to epithelial segregation. But when we do encounter carcinoma, in the majority of cases there will be found to have been previous epithelial segregation. As to what shall be done with those ulcers, that is for the surgeon, and not for the pathologist, to decide.

AN IDEAL OPERATION FOR TOTAL PROLAPSE OF UTERUS *

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There persists, especially after several or instrumental labors, an elongation of the round ligaments and of the six consecutive-tissue ligaments associated with the uterus, and more especially the ligamenta cardinalia. There is deepening and sinking of the peritoneal pelvic recesses anterior and, especially, posterior to the uterus. Since the normal anteverted or anteflexed position of the uterine fundus is maintained only if the cervix is high up and far back, such descent of the cervix and fornices permits the fundus to drop back into retroversion, unless there be present unusually short and muscular round ligaments.

Slight ptosis of the uterus may occur with the fundus in anteflexion or anteversion, but marked ptosis of the uterus implies an associated retrodeviation. A retroversion or slight retroflexion permits abdominal pressure, among other accessory factors, to cause a ptosis of severe degree. Ptosis does not occur if there are no lengthened ligaments; if the broad ligaments are elastic or sclerosed; if the uterosacral ligaments are short; if there is no tugging by a loosened vagina; if there is no atrophy of the perivaginal tissues; if there is no injury to the levator ani muscles, etc.

If a severe degree of ptosis carries the uterus down no further than to the vulva, such a hysteroptosis may be defined by the term "descensus uteri." If the uterus descends beyond the vulva, the condition is called a prolapse. With marked ptosis of the uterus there is descensus vaginæ. The anterior and posterior walls of the upper vagina descend in association with any marked descent of the uterus. The nearer the portio uteri approaches the vulva, the more is the vaginal canal shortened until, in the more extreme cases, it too finally lies outside the vulva.

Injury to the fibers of the levator ani muscles, even when the perineum is not torn, results in a very flabby vulvar outlet, and when the perineum is torn, in a hernia of the rectum (rectocele). Many cases do not result in more than uterine ptosis, or retroversion or retroflexion, even when they develop cystocele, or both. Loss of the support which the levator ani furnishes the vagina may be of importance. In many cases the uterus is elongated, much enlarged, the cervix is thickened and hypertrophic and the vaginal mucosa very thick. There is subinvolution and, at times, atrophy of the elastic perituterine and perivaginal tissues. There is not infrequently associated with this condition, even in cases in which labors have not been numerous or instrumental, a state of general elasticity associated with flabby subinvoluted abdominal walls and with varying degrees of gastroptosis and enteroptosis. What effect may persistence of retroversion and descent associated with intra-abdominal pressure and accessory pressures have in such cases? It leads to further uterine descent, and then, if perivaginal atrophy, large vagina and thickened mucosa are present, we observe further vaginal descent; (1) vagina pushed down by uterus; (2) vagina pulling down uterus; or (3) vaginal descent occurring simultaneously with uterine descent, but primarily independent of it.

The pathologic factors may be grouped as follows:

1. Tendency to inelasticity.
2. Labor injuries, especially if repeated.
3. Subinvolution; ligaments, uterus, vagina, etc.
4. Primary ptosis leading to retroversion. Since retroversion is present, attention has been paid to the displacement, and while this is an important pathologic factor, the elements of subinvolution, injury to the various muscles, atrophy and predisposition are overlooked.
5. Posterior enterocele and large descended fornix.
6. Large vagina.
7. Vagina loosened, giving no support.
8. Loosened vagina, actively tugging on the uterus.
9. Bladder torn from its fastenings.
10. Splanchnoptosis and intra-abdominal pressure.
11. Vocation.
12. Age. Most of the extreme cases occur after the menopause age, when there is great atrophy of the elastic fibers.

In the most extreme cases all union of the vaginal canal with surrounding connective and elastic tissues has been dissolved; all relations of fornices to normally situated peritoneal or uterosacral structures has been altered; all attachment of the uterus to fixed points of the pelvic wall have ended in tremendous elongation or atrophy.

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

Surgically, therefore, we have to take into consideration the following points:

1. Bladder and anterior vaginal wall.
2. Retrodeviation.
3. Elongated uterus, hypertrophied cervix.
4. Roof of vagina, which should be restored to its former elevation.
5. Posterior enterocele.
6. Capacious vagina.
7. Descended vagina. } Levator ani.
8. Rectocele and perineum. }

The first step in the operation is based on the vaginofixation operation of Dührssen.

The complete separation of the bladder[1] from its attachment to the cervix to the anterior wall of the uterus, to the lateral margins of the lower part of the uterus and to the anterior fornix and anterior vaginal wall, permits this organ to shrink up to a very small size and permits of its dislocation into any desired relation to the uterus. It is, therefore, obvious that, if the uterus is now attached by its anterior surface to the vaginal flaps, so that the fundus lies up behind the symphysis, the bladder must of necessity then rest on the fundus and posterior wall of the uterus and can never again come into contact with any area of the anterior vaginal wall. It is desirable, before attaching the uterus, to resect such an area of the anterior vaginal flaps as will make a taut anterior vaginal wall, a wall of such nature that it neither permits the fundus to sag down into the vagina nor forces it too far back from intimate relation with the symphysis. In this new position of the uterus, the bladder assumes a new and permanent relation to the posterior uterine wall. It is not necessary, nor do I deem it advisable except in rare instances, to sew the peritoneum on the posterior wall of the bladder to the peritoneal covering of the posterior wall of the uterus at the level of the internal os.

Resection of the flaps and fixation of the uterus to the anterior vaginal wall may be carried out at this stage but fixation of the uterus to the resected flaps may be better allowed to wait until the next two steps of the operation have been completed, namely, the amputation of the cervix and the correction of the posterior enterocele. When the uterus is fixed to the anterior vaginal wall, I pass four sutures, two of heavy braided white silk and two of No. 3 chromic, through the edges of the anterior flaps and through the upper part of the uterine fundus. The fixation is best allowed to wait, but the four fixation sutures are carefully passed through the fundus, their ends are grasped by an artery forceps, and are subsequently threaded and passed through the vaginal flaps after the next two steps have been carried out.

A high amputation of the enormously hypertrophied cervix is now in order. The fundus is replaced within the pelvic cavity, with or without fixation to the flaps, and the cervix is pulled down beyond the vulva and lifted up toward the urethra. A transverse incision is made through the vaginal mucosa at as high a point as possible without entering the cul-de-sac of Douglas; the lower edge of the incision is grasped with a mouse-toothed forceps; and the index-finger covered with gauze, sometimes aided by short snips of blunt-pointed scissors, separates the vaginal wall from the posterior wall of the cervix up to the peritoneal fold of Douglas, and continues to dissect this peritoneal fold upward for a considerable distance from the posterior wall of the uterus. We still have the lateral wall of the cervix covered by a bridge of vaginal mucosa; this bridge is incised with scissors down to the actual structure of the cervix, first on one side and then on the other, and with its submucous connective tissue is peeled away from the cervix by upward rubbings of the gauze-covered thumb. It peels away from the cervix smoothly and easily up to the uterine arteries. In this maneuver, as well as in the dissection of the posterior vaginal wall, there is considerable oozing, which is of minor importance. Side retractors are introduced there, if necessary, the bladder is held out of the way by an anterior retractor and the cervix is amputated at the level of the internal os by the aid of scissors. If this amputation is carried on from one side to the other, or from the anterior wall of the cervix down through the posterior, cutting of the uterine arteries should be avoided. As soon as the canal of the cervix is invaded the thick anterior lip should be grasped with single-bladded volsellum.

After amputation of the cervix, the uniting of the vaginal mucosa around this new external os is begun, first at the posterior wall, No. 3 chromic catgut sutures being used and the vaginal mucosa being caught at least three-quarters of an inch from the edge in order to cover thoroughly the denuded lower end of the uterus. After the first suture is applied and tied, the others are applied close to this one, first on one side and then on the other, care being taken to take up the vaginal mucosa snugly, so as to allow of no reefs or pleats. In this way the surplus of the posterior fornix and of the two lateral fornices is done away with. The sutures are then applied to the lateral wall and then to the anterolateral walls. A large surplus of vaginal flaps is noted, which consists of the originally dissected anterior vaginal flaps plus the surplus gained from the posterior and lateral fornices. The flaps are drawn, first one and then the other, over to the opposite side, and a very large triangular area is cut away. Now the uterus may be attached to the remaining vaginal flaps, each of the four fixation sutures which have been applied in the uterine fundus being threaded separately and carried through the vaginal flaps near their upper end. These may now be tied, bringing the fundus into intimate relation with the newly formed anterior vaginal wall. The flaps below the fixation sutures are then united by interrupted sutures of No. 3 chromic, which pass through the anterior uterine wall at the same time; or else the tying of these sutures may be left until the complete dissection of the rectum from the posterior vaginal wall has been completed, for, if in some instances these fixation sutures are first tied, it is a more difficult procedure to carry out a thorough dissection and resection of the posterior vaginal wall.

The next step of the operation consists in a high colpoperineorrhaphy which includes an absolute separation of the rectum from the posterior vaginal wall to within ½ to ¾ of an inch of the newly formed external os.

Two single-bladed volsella are attached to the lateral margins of the vulva at a point which is to constitute the lower end of the posterior vaginal wall and the highest point of the new perineum. These are drawn apart (before this an intra-uterine strip of gauze is introduced); and a pair of curved scissors cuts a wide tape-like strip from one volsellum to the other along the lower edge of the exposed vaginoperineal junction. Three or more heavy artery forceps are applied to the

1. The method employed in the separation of the bladder has been described in the International Journal of Surgery, May, 1900.

skin edge after this strip has been cut away and are allowed to hang down so that, by their weight, a denuded area half an inch in width is apparent. The upper edge of this denuded area is picked up with a mouse-toothed forceps, and a sharp knife begins the dissection of this thick posterior vaginal wall from the underlying, readily bleeding connective tissues. After this dissection has been well begun from one volsellum to the other, three or more artery forceps are applied to this upper flap, the forceps are grasped in the left hand and the fingers are placed behind the flap and the separation is continued with the knife from the underlying tissue, and then continued by the index-finger covered with gauze. After the preliminary dissection with the knife has been well started, the separation goes on easily, occasionally aided with the knife or with blunt-pointed scissors, the operator being extremely careful to avoid cutting into the rectocele. Oozing is fairly brisk, but no attempt to check it with artery forceps need be made. The dissection should extend very far laterally, especially so into the lateral sulci in which rest the separated levator ani muscles. After the flap has been thus separated upward for a distance of two inches, it is pulled down taut and then bisected along the median line as far as the separation has been carried. Artery forceps are then applied to the highest points of these flap edges and the separation from the rectum upward and laterally is continued. As the separation extends higher the flaps are bisected in continuity and artery forceps are applied high up in succession. In this manner, the entire posterior vaginal wall is separated to within half an inch of its upper limit and very well into the lateral sulci of the vagina. The flaps are then drawn down, first on one side, and then on the other; a large area is resected beginning at each volsellum and extending upwards to the highest point of the dissected flaps.

If the uterine fixation sutures have not yet been tied, they are tied now, and the union of the edges of what now remains of the posterior vaginal flaps is begun with heavy chromic catgut beginning at the highest point and gradually approaching the perineum. Occasionally, one of these sutures is made to catch the connective tissue over the rectocele in order to reef it upwards. As a rule, this is not advisable, as pockets may be formed, but with each successively applied suture the rectocele is pushed upward by a blunt-pointed instrument. After several such sutures have been tied, it will be noted that the vagina has been reduced to a canal of very small caliber, and this part of the vagina may now be gently packed with iodoform gauze. We now have left a large denuded area with the outline of a rather high colpoperineorrhaphy and some of the bulging rectocele at the lower area still remains to be dealt with.

Since the rectocele is a hernia through separated or torn levator ani muscles, these or the fascia which covers them must be brought together in such a fashion as to lie between the new vagina and the rectum and hold the rectocele permanently in check. Inasmuch as the healing of such a large denuded area is promoted to a great extent by the use of the smallest possible number of sutures, I use for the perineorrhaphy with the very best results a No. 4 chromic catgut suture passed in figure-of-eight fashion and constituting a single stitch. A very long, heavy, slightly curved needle is used; the left index-finger is introduced for control into the rectum so that the needle may at no point enter the lumen. The highest area of the remaining denudation is brought into view by a pair of forceps applied to the upper angle; that is, to the last-applied chromic suture which united the newly formed posterior vaginal wall. The needle, introduced on the left side one-half an inch or more exterior to the volsellum, goes in deeply through the lateral area of the denudation under the levator ani muscle. It is then continued up along the left lateral edge of the denudation close along the vaginal mucosa and comes out above the last applied chromic suture, now held by an artery forceps. The needle is pulled through and with it the chromic catgut. It is now introduced on the other side of the median line and passed down between the exposed connective tissue and the rectal mucosa over the finger in the rectum half-way between the median line and the volsellum on the right side. As the needle passes lower down and gets within an inch of the skin, it is passed deeply through the tissue coming out half an inch from the skin margin. The needle and chromic catgut are now pulled through and are passed in the same fashion, but from below upward, midway between the median line and the volsellum on the patient's left side. It is then passed upward, the point of the needle being controlled by the finger in the rectum, and makes its exit at the upper angle of the denudation through the vaginal mucosa. It is then introduced on the other side of the median line, passes under the mucosa on the right lateral edge of the denudation until the point reaches the depth of the right lateral sulcus, and is thus passed deeply under the levator ani muscles and out external to the right volsellum half an inch or more from the skin edge. The needle and chromic catgut are then pulled through.

In order to make the union of the posterior vaginal wall more perfect, three chromic catgut sutures are passed (but not tied) through the edges of the mucous membrane, forming the lateral margins of the denuded area and out through a corresponding point on the other side. These are grasped by artery forceps each one separately. Sutures are now passed to unite the levatores ani of the two sides and form a bridge which is to restrain firmly the rectocele. One, two or three chromic sutures are passed by a well-curved needle deeply through the lateral sulcus of one side in which rests the levator ani and its covering of fascia and, then, through the other side in the same fashion. I have not found it necessary to dissect out through the fascia any muscle bundles of levator ani muscles. These one, two or three sutures are now firmly tied, and their influence in pushing up and holding back the rectocele is readily apparent. These are the only buried knots in this method of perineorrhaphy.

A pair of artery forceps is now applied to the middle point of the skin edge, the two ends of this long, single-stitch chromic suture are pulled on in seesaw fashion, gently but firmly, and that part of the single-stitch suture which has passed from one side to the other over the skin edges is seen to take its place at a point almost midway between the ends of the suture held in the hands and the artery forceps applied to what is now becoming the lowest point of the external perineal wound. When the two ends have been thus pulled on, the two lateral sides of the perineal denudation come together in absolute contact, and a triple knot is tied and cut; the three chromic sutures which were passed and held by a forceps are tied. They unite the lower end of the posterior vaginal wall.

Two or more chromic sutures are now introduced in the perineum itself to bring the skin edges nicely together, and the patient is catheterized. Strips of iodo-

form gauze are tucked into the vagina, and the sphincter ani is given a most thorough stretching. Then iodoform gauze is applied liberally over the vulva and perineum, and is renewed with sufficient frequency to keep this area dry. The perineum is douched several times a day, especially after catheterization or defecation, with a pitcherful of sterile aluminum acetate solution. Catheterization is continued for three or four days and the patient is then allowed to void, if she can. The bowels are permitted to act whenever the patient is so inclined, otherwise, medicine is administered by mouth on the third or fourth day.

The intra-uterine strip of gauze which is usually marked by having a piece of chromic catgut tied around the end is pulled out without disturbing the vaginal packing on the third or fourth day. The vaginal packing of iodoform gauze is allowed to remain from five to eight days. The operation is attended with a minimum of shock, the pulse-rate in very few instances being over 90 at the completion of the operation.

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ABSTRACT OF DISCUSSION

DR. J. H. CARSTENS, Detroit: I should like to ask Dr. Bandler how old these patients are that he operates on, generally?

DR. S. W. BANDLER, New York: From 37 to 78. The youngest is 37.

DR. J. H. CARSTENS: That is the point that I was going to bring out. This is an operation on the order of the old operation of Martin of Berlin, of Mackenrodt and of Duhrssen. I do this operation once or twice a year because the women are young. They are in the child-bearing period, and anxious perhaps to have children, and I endeavor in every way surgically to save that capacity. But when a woman is over forty, if she is past the menopause, or if she is seventy-five, why in the name of conservatism should anybody try to devise and subject a woman to an operation that takes an hour and a half to preserve a little picayune piece of uterus? When you have a good for nothing piece of uterus, have sliced off a great piece of the cervix, have taken out the tubes so that she cannot become pregnant, then you preserve this little piece. What for I don't know. In this kind of a case you can do all kinds of plastic operations, without benefit. In such a case I just cut around the uterus, take it right out, stitch the two broad ligaments together, and make a little flap. The whole thing can be done in fifteen or sixteen minutes, with good results, and the woman is not subjected to an operation which takes an hour and a half or two hours.

DR. J. RIDDLE GOFFE, New York City: I quite agree with what Dr. Carstens has said in regard to the removal of the uterus. In all these cases in women approaching the menopause, or afterward, it is my invariable rule to remove the uterus. I see no reason for keeping it. It shortens the operation very much and makes sure of good support from the broad ligaments.

The point I would criticise in Dr. Bandler's operation is that he separates from the cervix at either side the strong structure at the base of the broad ligaments, viz., the fibromuscular structures called the cardinal ligaments. Unless that support is retained, even though you do as complete an operation as has been described, sooner or later that little piece of uterus is going to come down. No matter how thoroughly the perineum is built up or how securely the fundus is stitched to the anterior vaginal wall, unless, as I say, these cardinal ligaments and the round ligaments are preserved and support from them secured, sooner or later the vagina will turn itself inside out, and while the fundus will not be seen at all, the cervix will come down and drag the bladder after it. I have seen such conditions after operation. There may be some cases, as Dr. Carstens says, of women who desire to have children, in whom it is well to preserve the uterus. I have done the operation with that intent. After the uterus is removed my method is to stitch together the broad ligaments from either side across the pelvis, commencing with the round ligaments, carrying my sutures down the full width of the broad ligaments, including the cardinal ligaments. Upon this plane of tissue I spread out the bladder, stitching it firmly at three points, thus hanging it there and securing its support from above. The fascia lata and anterior vaginal wall are then trimmed off and stitched to fit snugly the base of the bladder. It is important to relieve the rectocele. A rectocele, if continued, is bound to pull the uterus down. In a rectocele we have introduced a new force which is not there naturally at all, a pulling force that drags down whatever is above and unless we repair the floor of the pelvis the prolapsed condition is reproduced. My method of doing that is to start from above where I have cut away the peritoneum posteriorly to the cervix, dissect down a broad piece of tissue the full width of the rectum, clear down to the vulva and out on either side to get hold of the levator ani muscles. Where a large rectocele is present I plicate the rectum, taking in the slack in its longitudinal axis, and then bring together the levator ani muscles from either side in front of the rectum to restore the floor of the pelvis.

DR. F. F. LAWRENCE, Columbus, Ohio: The questions occur to me: Why do we have prolapse? Why is it that in quite a goodly number of women who have had their perineums torn almost to the rectum they go on for years without even a slight descensus? It seems to me that when we start on the theory of building up from below in a case of complete prolapse or any other marked descent of the uterus we are getting the cart before the horse absolutely. In the first place, a marked retroversion is a physical impossibility, much more is a prolapse an impossibility, so long as the broad ligament is sufficiently tense to sustain the weight of the abdominal contents, not only against normal weight, but against deep inspiration or pressure about the waist from corsets or from clothing. And we may repair from below all we please but we have not relieved the ptosis within the abdomen and consequently the weight of the entire abdominal contents will be on the top of our downward repair and sooner or later with even no recurrence of the prolapse of the rectocele and the vesicocele we will have the women in constant pain because of pressure on the compressed scar tissue. I do not believe (as Dr. Carstens has just so emphatically said) that we are justified in doing any prolonged tedious plastic operation creating an enormous amount of scar tissue which never amounts to anything anyhow, leaving the real cause of the difficulty which lies above. We must restore the tension of the broad ligament to sustain the contents of the abdomen first. Then simply by the repair of the rectocele and the cystocele we shall render all the service we are able to do.

DR. J. M. BALDY, Philadelphia: This operation does not deal with the essential point of prolapsus uteri. A nice operation is done on the vagina but nothing is done after the uterus is put back into the pelvis to push it up to the normal height and to hold it there. If this is true you fail in everything, because all the pressure that tears the uterus loose will still be operative. Any operation that fails to deal with that *per se* condemns itself. The amount of denudation done is simply enormous. Passing the fingers into the rectum with or without gloves—and gloves make them dirtier than without—you add to the chance of infection.

DR. S. W. BANDLER, New York: I am not at all worried by this tirade. I have not come here and presented to you an idea. I have been working on this vaginal route for fourteen years. I tried to cure these patients originally by a simple vaginal fixation and found it was by no means enough. I added to that the high amputation of the cervix, and found that was not enough. I tried amputating the cervix and special method of getting the two large flaps before fixing the fundus in front. That was fine, but still not enough. But since I diminished the caliber of the vagina and did a high perineorrhaphy not a case has recurred. Where would we be to-day in surgery if its great men said "Don't do this or that operation because it is a long one or a bloody one?" When men like Dr. Baldy talk this way it is child's talk. These pa-

tients even at the age of 75 go back to bed with the pulse almost normal in rate. I am not excited in making such remarks, only enthusiastic. I am not here to claim that this is an entirely original operation. If I had had opportunity to finish the paper I would have stated that it is founded on the principle of vaginal fixation as described by Duhrssen and Mackenrodt. What does Dr. Carstens propose to do? I have always admired him for his work. He now speaks of taking out the uterus in ten minutes. It is the hardest thing in the world to keep ourselves from doing a hysterectomy in these cases because it is so easy, but this does not cure the patient; nor have we supported the bladder. When Dr. Carstens removes the uterus he does not cure the prolapse of the vagina or the cystocele. I did that operation in 1900, 1901 and 1902 and the patients would come back with the bladder down. Here is an operation that is a beautiful thing because the cervix is placed high up and far back. The uterus does not descend in the way Dr. Baldy says. Dr. Baldy says I do not lift that cervix up. I do lift it up. I do a high amputation to make the uterus so short that when the intra-abdominal pressure pushes the fundus down the new cervix rises up and back. There will be no new cystocele. Hysterectomy for total prolapse! It is child's talk. Don't forget that the vagina is very capacious in these cases. When you fix the fundus back of the symphysis and it is fixed good and hard, so that it will stay; when you amputate that cervix and do the operation so that you take away the posterior enterocele; when you diminish the caliber of the vagina so that it scarcely admits two fingers by resecting the posterior wall, and do a high perineorrhaphy, then you have a fine complete operation. If these women did not complain we would not do the operation. By this method I have never lost a case, I have never perforated a bladder and have never cut a hole in the rectum.

THE BRONCHOSCOPIC TREATMENT OF BRONCHIAL ASTHMA *

HENRY HORN, M.D.
SAN FRANCISCO

General medicine and the internists are indebted to the laryngologist for the solution of many of their problems. The border-lines between laryngology and internal medicine are many and are constantly being encroached on by men in our specialty. One of the most brilliant examples of this in recent years is the improvement in bronchoscopic methods by Killian, the head of the laryngologic clinic in Freiburg.

Bronchoscopy in less than five years has been raised to the dignity of a science. The recent publication of Brüning's magnificent text-book of Bronchoscopy, the various publications of Jackson in America, and the countless contributions to the literature of this subject from every part of the world indicate plainly that it is a question with which every well-trained laryngologist and internist should be familiar.

Until quite recently the majority of the contributions dealt with the removal of foreign bodies, but a recent article by Ephriam, showing the relation of bronchoscopy to internal medicine, indicates many other uses to which this procedure can now profitably be put.

I make no excuse, therefore, for presenting before this Section a subject which would seem at first glance to belong to the realm of internal medicine. The work was done over a year ago at the University Laryngologic Clinic of Bonn, Germany, and the results are here presented for the first time. The physical examinations were made by the department of internal medicine of the Friedrich Wilhelm Stiftung under Professor Bohland. I am responsible for the bronchoscopic findings alone, except that the examinations were always demonstrated to men visiting from other clinics.

The theories concerning the pathology of spasmodic asthma are many. Until two years ago these theories were based on clinical findings alone. Three autopsies have been reported of patients dying during an attack of asthma, but the findings have been of no importance. Von den Velden, in a recent complete review of the subject, says that asthma is based on a general neurosis, and this seems to be the general opinion to-day, but what actually happens when the patient is in the throes of an attack, fighting and gasping for a breath of air, is a question which was first answered by Notowny, who used the bronchoscope as a method of observation. Up to the present time five reported cases of bronchial asthma have been studied by means of bronchoscopy; the sixth, which I here present, is the first, I think, to be reported in America.

Notowny had an opportunity of seeing three cases. I will in a few words give his findings and the results of his treatment. The treatment consists in swabbing the mucous membrane of the bronchial tubes, as far as one can reach, with a 20 per cent. solution of cocain, containing a few drops of adrenalin.

CASE 1.—Boy, aged 15. Spasmodic asthma since childhood. Bronchoscopic examination showed redness and swelling of the mucosa but no contractions spoken of. Patient remained well for one year following last treatment.

CASE 2.—Woman, aged 45. Asthma fourteen years. Bronchoscopy showed slight redness and swelling of mucosa of deeper bronchi. Presence of contractions in the bronchi was not mentioned. Patient was under observation only two weeks, but dyspnea became decidedly better.

CASE 3.—Girl, aged 13. Asthma for eight years, following scarlet fever. Left lung was entirely obstructed during attack. Tracheotomy, then lower bronchoscopy was done. There was no swelling or hyperemia of mucosa present. Left lung was open for air. No contractions of the bronchi were mentioned. Three bronchoscopies showed no abnormal changes. Patient remained well five months.

Galebsky, working in Simanovosky's clinic in St. Petersburg, published the next series.

CASE 1.—Woman, aged 40. Severe bronchial asthma combined with severe bronchitis of several years' standing. Mucosa of left lung was markedly reddened and edematous; the right lung was normal. After first treatment, patient became decidedly better. After a few weeks, the attacks renewed with old severity. The second treatment was without effect. Further treatment was abandoned.

CASE 2.—Woman, aged 30. Severe asthma for seven years. The attacks lasted forty-eight hours. The patient was completely cured after one treatment. There was no change in mucosa noted, and contractions were not mentioned.

These five cases are all that I can find in the foreign literature. If I have overlooked any in the American literature I hope my attention will be called to the fact.

The case which I shall now report in detail is of great interest from the standpoint of both the rhinologist and the internist. Space does not permit a complete history of all aspects of the case. The patient was sent to me on account of a suspected double-sided empyema of the frontal sinuses. A typical Killian was done on one side and conservative measures brought the other side to complete healing. This treatment had not the slightest influence on the course of the asthma.

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

CASE REPORT

Patient.—A. H., servant girl, aged 24. Mother died of lung tuberculosis. Brothers and sisters were healthy. The patient had measles and scarlet fever during childhood. As a child she had frequent attacks of fainting. She had always been anemic; menstruation had been profuse, painful and irregular.

Present Illness.—Three years before coming under observation the patient had severe diphtheria, followed six months later by asthmatic attacks from which the patient had suffered ever since. The attacks were mostly nocturnal, and influenced by weather. The attacks lasted hours, sometimes days. The patient said that she was always extremely cyanotic and vomited large quantities of mucus. She had undergone several operations for nasal polyps. She was admitted to the Friedrich Wilhelm Stiftung, Bonn, Germany, Sept. 9, 1908, Professor Bohland in charge.

Examination.—The patient was a small, delicately built woman, poorly nourished, pale in color, with lips medium normal in color; she was not cyanotic. Thorax was long, small, flat. Both sides moved equally. Breathing was somewhat hurried. Lung Borders: Anterior, right apex, 5 cm. above clavicle; left apex, 3 cm. above clavicle; lower border, right, eighth rib; left, fifth rib. Posterior, upper border; right vertebra prominent; left somewhat deeper, lower border, both sides tenth rib. Lung borders freely movable. Auscultation: At apex left, shorter breathing sounds than on right. Scattered rattling râles, lengthened expiration. Heart and abdomen normal.

Patient remained in hospital eight days; she had a severe attack every night lasting several hours, relieved only by morphin, 0.01 gm. The patient remained in this condition for one year; then she was turned over to our department on account of the nasal condition.

Nasal Examination.—Middle turbinate on both sides had been removed. Space between stumps of turbinate and septum filled with slimy discharge. No discharge on floor or region of inferior turbinate. Transillumination: Antrum, right and left clear. Right sinus darker than left. Suction gave pus from region of ductus.

In November, I performed an external operation on ethmoid labyrinth. Labyrinth was filled with polypoid mucous membrane. In spite of the operation the attacks continued in unabated severity, it seemed almost as though the patient could not survive another. The weather was bitter cold, the snow lay deep upon the ground, but, hour after hour, with the windows thrown wide open, the poor girl hung to the edge of the bed, clothed only in a flimsy night-dress, gasping and struggling for a breath of oxygen. When I suggested a trial of the bronchoscopic method, she was glad to attempt anything that offered hope.

First Bronchoscopy.—Accordingly at 5 p. m., in the middle of an attack which was pitiful in its intensity, and in the presence of several staff surgeons, I made the attempt. I gave no preliminary dose of morphin, but did an upper bronchoscopy without difficulty. After I had passed the larynx and reached the region of the bifurcation, the patient began to cough up enormous quantities of thick mucus, which I helped to clear away as much as possible with applicators, forceps, suction, etc. The amount was estimated at over 200 c.c. The mucus membrane was so covered with the thick secretion that it was impossible to determine with accuracy whether it was swollen and reddened or not. As far as one was able to reach with the applicator, the mucous membrane was swabbed five times with an abundant quantity of 20 per cent. cocain solution, containing a few drops of adrenalin, and 0.5 c.c. of the solution was sprayed into the smaller bronchi with the bronchial atomizer. The treatment lasted fifteen minutes. The patient was very quiet; there was no straining or anxiety and no pain was complained of.

Course of Disease.—November 7. The patient slept well; there was no attack and no hoarseness. No morphin was used; pulse and temperature were normal.

November 8: At 4 a. m. patient had a very light attack, lasting ten minutes. No morphin used. Patient slept the entire night.

November 9: At 10 a. m. patient had a very light attack.

November 10: Patient had a bad attack; heroin, 0.0005 gm. was administered.

November 10 to November 25: One very light attack.

November 25 and November 26: Severe attacks.

November 26 to December 3: No attacks.

Second Bronchoscopy.—December 4: Patient in light attack. Length of treatment was eighteen minutes; sixty drops of 20 per cent. cocain, with six drops epinephrin (adrenalin) were used on swabs. Cocain, 0.5 c.c. of a 20 per cent. solution was used in atomizer. Nothing abnormal was noted in mucosa or lumen of tubes.

December 5 to December 8: No attacks.

December 8: Typical Killian operation.

December 8 to January 14: No severe attacks; one slight attack. No morphin. Patient discharged practically well, better than she has been in years. Sleeps and eats well.

February 10: Patient readmitted. Since discharge, the father of the patient had died. She became very excited and nervous and caught a severe cold by lying out all night on the grave of her father. Since then, she had a number of attacks, but not nearly as severe as formerly. The patient now complains of pain under the sternum, nervousness and sleeplessness. Physical examination gave the same findings as before.

Third Bronchoscopy.—February 11: Attack of medium severity. Preliminary injection of morphin 0.005 gm., scopolamin 0.0005 gm. Patient in deep sleep when put on chair in sitting position. The pulse 60. During treatment 4 c.c. of 20 per cent. solution of cocain were used on bronchial mucous membranes. Patient very quiet; had no cough. No mucus. Mucous membrane seems normal in color as deep in bronchi as one can see. The main bifurcation seems to be at a depth of 32 cm. and is contracted just below to far less than normal caliber. Time of treatment eleven minutes.

February 12: Patient complains of pain in stomach; morphin 0.005 gm. administered.

February 13: Patient had bad night; no asthma; morphin 0.005 gm. given.

February 14: Patient somewhat better. Pain in stomach less severe. Morphin 0.005 gm.

February 15: Stomach pain still continues. Patient slept badly. Slight attack.

February 16: No morphin. No attack.

February 18: Severe attack. Morphin 0.01 gm. given.

February 19: Slight attack.

Fourth Bronchoscopy.—February 19: Fairly hard attack. Treatment lasted twelve minutes. An 8.5 mm. tube used. More secretion obtained than by last examination. Patient perfectly quiet. Pulse at beginning 100, at close 115. Patient complains of being tired after treatment; but otherwise no disagreeable features present. At 29 cm. one finds no trace of bifurcation, but the right bronchus is continued in a straight line to 31 cm. At 29 cm. one finds on the left tracheal wall what seems to be changed whitened mucous membrane. In the middle of this spot one sees a small opening not more than 2 to 3 mm. in diameter, through which one can pass into the left bronchus with a sound. At 31 cm. the lumen is decidedly contracted; one can go no deeper with the 8.5 mm. tube, there seems to be a constriction, 1 cm. below which one sees a normal bifurcation.

February 20: No attack.

February 21: Slight attack at 4 a. m.; patient otherwise much better.

February 21 to 26: Daily light attacks, easily relieved with stramonium powder.

February 27: Suddenly, while drinking coffee, patient had a severe attack; thinks she aspirated a piece of bread. Patient very dyspneic; cyanosis of face and edema of both eyelids, especially left. Expiration especially difficult. Attack lasted from 4 p. m. to 3 a. m. Morphin, 0.01 gm., given. Patient very weak. Excursion of thorax markedly limited on left side. Pulse 96 to 102, full and regular.

February 28: At 4 p. m. patient had medium severe attack. The left thorax half is decidedly limited in its excursion. The accessory, respiratory musculature is in a state of clonic cramp. Auscultation over right lung gives whistling and piping râles. The breathing is so weak over the left lung

that one cannot say with certainty whether the sounds are not carried over from the right side. By auscultation one can follow the trachea to the bifurcation, and the right bronchus on down into the lung. All sounds cease in the left bronchus at the bifurcation.

March 1: Lung findings. Picture entirely changed. Breathing excursion the same on both sides. Râles the same on both sides.

Fifth Bronchoscopic Treatment.—Interval Examination.—March 1, at 6 p. m.: Time of treatment, 10 minutes. Morphin, 0.01 gm. Mucous membrane was very slightly swollen, with scattered masses of thin white mucus. Bifurcation at 29 cm. absolutely normal in appearance. One can pass the 7.5 tube easily into the left bronchus, and all seems normal even in the smaller branches. No contractions visible. Right bronchus and smaller branches seem absolutely normal in appearance. No contractions. The mucous membrane on both sides was thoroughly swabbed with 20 per cent. cocain solution, and the finer branches sprayed with same solution. *X*-ray picture taken after treatment shows only packets of glands along vertebræ, and a string on the left side reaching upward from the heart.

March 2: Attack. No morphin.

March 3, 11 p. m. to 2 a. m.: Severe attack. Morphin, 0.01 gm.

March 4, 2 to 8 p. m.: Severe attack.

March 5: Light attack.

March 6: Light attack.

March 7: Severe attack.

March 8: Severe attack. Patient discharged at her request.

COMMENT

In reviewing the details of this history there are certain points which seem to me of great importance. We have a case complicated by many factors—hysteria, tuberculosis and severe accessory cavity disease. The asthmatic attacks were of great severity; the patient was obliged to use morphin for years. The successful treatment of the accessory cavity trouble had no influence on the course of the disease.

The first bronchoscopy relieved the lungs of a great mass of mucus. I doubt very much, on account of the amount of secretion present, whether the cocain had any effect at all. The patient was evidently very much relieved, more so than by other form of treatment up to that time. She herself asked for another treatment.

The second bronchoscopic treatment was carried out without difficulty. No secretion, no redness, no swelling and no contractions were noted. Here the conditions were more favorable for the action of the cocain. The ordinary dose of cocain is given as 0.05 gm., which is 5 drops of a 20 per cent. solution or about as much as one applicator would carry. Sixty drops were used on the applicators and, in addition, 0.5 c.c. of a 20 per cent. solution was sprayed into the finer bronchi. Nearly twenty-two times the maximal dose was used and no effects of the drug could be noted. The pulse was not accelerated twenty beats, either by the cocain or by the procedure, which lasted nearly twenty minutes. Was the cocain absorbed as such or did it exercise some local effect on the nerve endings which would account for the subsequent great improvement? From December 4 to the latter part of January of the following year the patient was practically cured. She had no attacks, gained in weight and appetite and considered herself cured. Whatever the cause of the improvement, it seems to me that the treatments were more than justified.

The patient's indiscretion following the death of her father was too much of a strain for her poorly-balanced nervous system. All conditions were most favorable for a recurrence of the attacks, and they recurred, but, as the subsequent bronchoscopic examinations showed, they were of an entirely different type and far less severe than formerly. Whether these spasmodic narrowings or clonic cramps of the musculature of both the large and small bronchi are typical of a certain type of asthmatic attack I do not think that we are in a position to conclude from the fragmentary observations which we now have at our disposal. In a later case, which I shall not now report, I saw nothing of them. So far, observations are too few and the pathologic picture too changing to allow us to form any definite ideas. I have reported this case in the hope that it will stimulate some one to extended experiments.

The third bronchoscopic examination was again carried out during a severe attack. Here a great surprise awaited us. Instead of finding the bifurcation at 28 cm., where it normally belongs, we were obliged to carry the tube on down to 32 cm. No explanation suggested itself. It seemed that this bifurcation was much smaller than usual; it was certainly somewhat contracted, and the mucous membrane, as far as the eye could see, was not reddened and not swollen. My first thought was that I had overlooked the condition at the first examinations, and that it was some anatomic abnormality. I also considered the possibility of having in some way shoved the lungs bodily down with the larger tube. I was entirely unable to offer any sensible explanation to the clinicians present, and I felt that I was facing some problem which I determined to clear up at the first opportunity.

The fourth examination was carried out eight days later, during a severe attack. I was prepared, after thinking over the curious conditions found at the previous examination, to pay especial attention to the region at a depth of 28 cm. As I have already said, at 29 cm. I found a white scar-like change in the mucous membrane, in the middle of which was a small opening about 3 mm. in diameter. The sound passed readily into the left bronchus and the scar-like tissue did not feel at all swollen to palpation but hard. There could be no shadow of a doubt as to the correctness of the observation. It was demonstrated to all present, and in the discussion which followed, bearing in mind the previous severe attack of diphtheria, we were inclined to regard it as a cicatricial contraction at the beginning of the left bronchus, a conclusion which entirely invalidated the observations at my first two examinations. In looking up the literature on the subject, no similar case was to be found, and nothing would satisfy me except another examination.

I was now convinced that I had found the true cause of the trouble and immediately began preparations to carry out a course of dilatations of the bronchus similar to that used by Killian in the removal of a foreign body situated under a stricture.

A careful examination of the chest, carried out a few days later during an attack of unusual severity, seemed to confirm our findings. The left lung seemed completely out of use, and one could determine exactly by auscultation the point of constriction.

Three days later an examination was again made in an interval between attacks. The findings were almost reversed. Both lungs functionated equally and no trace of a stenosis was to be found by auscultation. By this time my suspicions were aroused as to the true state of affairs, and the last bronchoscopic examination, which was made while the patient was free from an attack, showed a per-

fectly normal mucous membrane, with no signs of contractions either in the left or the right bronchus.

The conclusion was obvious; the patient was suffering from a spasmodic closure, or, better, a tonic cramp of the bronchial musculature, confined principally to the beginning of the left main bronchus, but also plainly to be seen in the deeper branches of the right bronchus.

That this cramp was not present at the first two examinations I am positive. That it was present at the second two examinations I am equally positive; and, besides, it was demonstrated to the many onlookers. And, finally, that the bronchus was again normal at the last examination was proved by the fact that the tube was passed down both sides.

In conclusion, it is interesting to note that the greatest relief occurred after the first two treatments. The relieving of the lungs of the enormous mass of mucus by the introduction of the tube seemed to be the determining factor in the first treatment. The period of forty days' relief following the second treatment might be credited to the combined effect of the dilatation, which I am convinced plays an important rôle, and to the local action of the cocain. How this local action is to be explained I am at a loss to say. I do not think that it is due to the absorption of the drug as such, for I have not yet seen any symptoms which would point in that direction. I am inclined to believe that asthma is a nervous reflex affection, and that the cocain exercises an effect analogous to the favorable action of that drug when applied locally in the nose during an attack of dysmenorrhea.

CONCLUSIONS

Combining and comparing my results with those of Notowny and Galebsky, I think that I am justified in drawing the following conclusions:

1. It is possible in a young adult to have an almost complete closure of a main bronchus, due to a tonic cramp.

2. Notowny's conclusion that the theory of bronchial spasm is false is disproved in this case.

3. The complete cures in some cases and the long period of relief in this case seems to indicate that the treatment of spasmodic asthma by the methods elaborated in this paper is worthy of more extended investigation and should be given a trial when all other methods have proven of no avail.

4. There seems to be no one bronchoscopic picture characteristic for an attack of spasmodic asthma. We may have normal mucous membrane, spasms and contractions of the large and small bronchi, and redness and swelling, alone or combined in the same case.

5. Tuberculosis, heart disease, slightly scoliotic spine, great weakness and age seem to offer no contraindication to the use of this method.

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ABSTRACT OF DISCUSSION

DR. E. FLETCHER INGALS, Chicago: I have not the enthusiasm of Dr. Horn in reference to bronchoscopic treatment; I do not agree with him that there is no contraindication to the use of this method of treatment. Some men who have great skill in this line can examine patients without much difficulty and without ill effects, but it is equally true that in a large number of cases bronchoscopy is followed by serious results. Von Eicken, in an exhaustive report to the International Medical Congress in Budapest, 1909, records 308 cases of bronchoscopy for foreign bodies, collected from every available source, including the literature and personal communications. Five of these cases he leaves out for reasons not explained; but in 303 there were 40 deaths or 13.20 per cent., the fatalities being considerably more numerous in young children. It is not possible to get accurate statistics, for most unfortunate cases are not reported, but I am under the impression that very few men should attempt this work, because of danger to the patient. There is not opportunity for many men to become expert in this operation. I note that Dr. Horn's examinations were not long continued; this should be remembered as an important factor of safety.

I agree with Dr. Horn in his conclusion as to the error of one author quoted regarding the conditions of the bronchial tubes in asthma. This case occurred in winter; the patient had come from the outside into the warm atmosphere of the hospital and we cannot be so certain as to the influence of the treatment, because, as we know, many cases of asthma are relieved by simply coming into the hospital. I do not think the treatment did any harm and I think it was justified, but I do not think that more than one man in a hundred would be justified in doing bronchoscopy for the relief of asthma. The cocain can be applied more easily and safely through a spray tube passed below the vocal cords or it may be inhaled from an atomizer, with quite as much relief. A method much employed by an irregular who gives patients much relief consists of the inhalation of a small quantity of cocain, atropin and possibly epinephrin—sometimes people are relieved thereby for months; therefore, applications of strong solutions do not seem to me to be justified except in extreme cases, like the one referred to in this paper. The findings of contraction of the bronchus in the fourth examination is interesting. In the other examinations, the large amount of morphin and scopolamin may have prevented contraction. In bronchoscopy, we see rhythmic contraction and relaxation of the bronchial tubes provided the patient has not been overpowered by the anesthetic. In a case which I was demonstrating to a class of doctors, a bronchus from 4 to 6 mm. in diameter, closed so that the opening was not visible. I have seen a bronchus close completely, when search was being made for a foreign body.

I made some experiments about a year ago in the laboratories of the University of Chicago with the view of ascertaining the effects of certain remedies in the spasmodic conditions of the bronchial tubes in asthma. I did not have time to carry these far enough to give me anything worth while, except on one point; in a dog I produced tonic contraction of the bronchus, with almost typical asthmatic breathing, for some time by the insufflation of powdered ipecacuanha. With reference to the position of the bifurcation of the trachea, there is a large chance for error. I have sometimes found it difficult to locate the bifurcation, though I do not think this likely to happen with Dr. Jackson, who is expert and can see better than I. It would not be strange with the variability of the illumination and the anatomic conditions for one to mistake the bifurcation of the main bronchus for the bifurcation of the trachea. I have not examined patients with asthma by this method; I am glad that Dr. Horn has done so and hope it will be done by others, but I hope that not all laryngologists will undertake to cure asthma in this way. It is better to wait until one has had a great deal of experience in bronchoscopy on living dogs, before trying at all. There is all the difference in the world in doing bronchoscopy on the cadaver and on a living subject.

DR. CHEVALIER JACKSON, Pittsburg, Pa.: I am in direct and absolute opposition to Dr. Ingals in only one statement; he stated that I am more expert and can see better than he can; that I deny most strenuously; it absolutely is not true.

My position is about half way between that of Dr. Ingals and Dr. Horn. I do not think every one should examine the bronchi in disease, but that the dangers are very great I do not believe. I do not think that the difficulties are very great in bronchoscopy if it is for therapeusis. Foreign body work is totally different. There it is a problem of mechanics, and good mechanics are born, not made, and lest I be thought boasting, I would state that it is a generally accepted fact that the best mechanics are men of very little brains. I think in the future many men will devote

themselves to the diagnosis and therapeusis of the air passages, using the bronchoscope simply as a speculum, and as a speculum is used in gynecology and other specialties. The field is enormous. We went down into the lower air passages first for the extraction of foreign bodies; then we began to discover pathologic conditions; and we have discovered that there is an immense amount of pathology of the air passages visible bronchoscopically. The time has arrived when diagnosis of thoracic diseases are being made with the bronchoscope. That is the first step beyong the foreign body stage; the next is therapeusis. I regard Dr. Horn's paper as epoch marking in this respect. Now we must bear in mind that an entire year's publication of THE JOURNAL would not contain all the remedies suggested for asthma, which is one of the most complicated of conditions, and it will take a long time to perfect bronchoscopic methods of treatment. When cocain first came into use we were enthusiastic about curing acute rhinitis and a host of other troubles with applications of cocain and all physicians know where that drugs stands to-day. I do not think we will apply the bronchoscopic treatment of asthma to all cases, but I think that there are patients who can be cured by local treatment in this way. Asthma is a neurosis and there must be general treatment as well as local; however, this is a step in the right direction and I certainly believe with Dr. Horn that we have here a field for investigation and that patients will be cured in this manner.

I would particularly like to emphasize, however, that we began this work for the extraction of foreign bodies; that we found disease; that diagnosis was the second step, and that the third will be therapeusis.

DR. W. E. CASSELBERRY, Chicago: Even in foreign body work the bronchoscopic examination is of value from a diagnostic standpoint. It might be thought that we would have in the radiograph sufficient evidence of the presence of a foreign body, but it fails to disclose the exact conditions in which the foreign body may exist in the bronchial tract. The point I would make is that we cannot learn what may be vital conditions until we have made a bronchoscopic examination. A case in point is one in which a 1½ inch glass-headed steel pin was plainly enough lodged in the left bronchial tract as shown by the *x*-ray, but in which on bronchoscopic examination it was found to be immovably transfixed in the first bronchial branch with its head impacted against the upturn of this branch and its point inserted firmly into the bronchial wall. It could be grasped with the bronchoscopic forceps, all suitable kinds being tried, and the force being exerted in all directions, but without success in removing it because of the transfixion until at a second operation it was cut in two. The bronchoscopic pin-cutter which I devised for this case could be used also for needles, safety-pins, etc. To prevent the fragments from flying asunder and getting lost the instrument was so devised that it will hold fast to one of the ends of the pin after cutting. In my case the pin being cut near the point, this end was retained and withdrawn by the cutter and the other end was then picked up with forceps and withdrawn.

DR. HENRY HORN, San Francisco: I have been accused by Dr. Jackson and Dr. Ingals of over-enthusiasm and I desire to plead not guilty. I am not at all enthusiastic about this method of treatment. The paper is simply presented as a pathologic experiment. I selected this case from a number of others that I had been working on, not because of the value of the treatment, but because of this remarkable condition of tonic closure of the main bronchus. As Dr. Ingals truly said, it goes without saying that if one's technic is not good, such work should not be undertaken. Of course, I did not mean that there were no contraindications, naturally there are many, but I mean that before I tried this I would not have done it, for instance, in a case of dilated heart. I only wanted to report this experimental work in the hope that some members of the Section would carry on the idea and see what results could be obtained. Dr. Casselberry said that this patient was brought from the outside into the warm atmosphere of the hospital. As a matter of fact, she had been in the hospital for an entire year, receiving every treatment that the German Pharmacopeia knows, and she had had morphin every night for a year. It seems to me, therefore, that the result must be credited to bronchoscopy unless it be credited to the mental effect on the patient.

I do not know much about the cocain proposition referred to by Dr. Casselberry. In a large series of experiments on dysmenorrhea, I was able to relieve the patients by local applications in the nose. I do not know why, but the fact that the pain ceased is true. I simply offer the suggestion that there is some sort of an analogy.

This is not the only case I have worked on. When possible I examined every patient with severe chronic bronchitis who came into the clinic, and almost without exception they said that they were relieved. Why I do not know, but I am of the opinion that the passage of a large instrument into the bronchus is somewhat analogous to the passage of the cold steel sound in the urethra. Before I left San Francisco I had a case in which I did not use morphin or cocain and the woman, who had severe asthma, had taken stramonium powders every half hour for years. After one passage of the bronchoscope and that only down to the bifurcation she came back two weeks later, without having had to take a powder. So that there must be something in the mere introduction of the bronchoscope.

As regards the position of the bifurcation, perhaps I did not make myself quite clear. I meant the bifurcation of the trachea, which one can hardly miss. One may pass this little opening of the upper bronchus very easily. If you happen to twist the bronchoscope it may be taken for a cicatricial contraction. Dr. Jackson misunderstood me: I said I mistook the constriction for a scar contraction and supposed it to be a result of diphtheria, but it was not as was shown later. Up to the present time there are no cicatricial contractions reported as due to diphtheria.

Now was I justified in making this trial? I think so. If the technic is good, I do not think that there are many contraindications to the procedure. I have had patients tell me that the passage of the bronchoscope is more comfortable than the passage of the soft rubber tube into the esopnagus. If the patient doesn't object to the passage of the instrument it cannot be uncomfortable. This work is certainly going to open up a great field in the study of internal medicine as related to the respiratory tract. We are able to recognize many things that a few years ago we never thought of looking for—abscesses, tumors, strictures, etc.

AGAR-AGAR IN THE TREATMENT OF CONSTIPATION IN CHILDHOOD*

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Agar-agar is prepared from hot water extracts of various species of *Gelidium* and differs somewhat in its composition according to its origin. It is sold commercially in the form of strips about eighteen inches long, varying in thickness from that of a straw to that of the finger. It contains about 60 per cent. of carbohydrates, principally in the form of galactosan and pentosan.

Saiki[1] did a series of beaker experiments in order to determine its digestibility and obtained negative results, not only with saliva and pancreatic amylase, but also with an intestinal extract containing very active invertin. The digestibility was but little increased by preliminary treatment with dilute acid. He also found that agar-agar was very resistant to the action of the ordinary intestinal bacteria. Only one of three strains of the

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Saiki: Jour. Biol. Chem., 1906, ii, No. 3.

Bacillus coli communis caused gas production in agar-agar media, and that only to a slight degree. Utilization experiments in both animals and man showed that very little (about 10 per cent.) of the polysaccharides was utilized and that the agar-agar was passed through the intestinal canal unchanged.

Agar-agar has the property not only of absorbing water, but also of retaining it in its passage through the intestinal canal. It thus increases the bulk of the feces and prevents the formation of hard, fecal masses. This peculiarity, together with its resistance to bacterial decomposition, suggests its use in the treatment of that form of constipation which is due to complete digestion of the food and to complete absorption of the water from the intestinal tract, the stools being as the result small and very dry. It has been used with good results in the treatment of this class of cases in adults by Mendel,[2] Schmidt,[3] Gompertz[4] and others. The doses given have varied from ½ to 1 ounce daily. Owing to the nature of its action, no habit is produced and it is not necessary to increase the dose. In fact, it is usually possible to diminish the dose and in some instances to entirely discontinue it. In spite of the fact that agar-agar alters the character of the feces, it does not always induce a spontaneous evacuation of the bowels. This is because it does not exert an irritant action on the intestinal wall as do the products of putrefaction usually formed in the intestine. Schmidt called attention to this fact and added a small quantity of the extract of cascara to the agar-agar in order to supply this chemical irritant. A preparation of this sort is sold under the name of "regulin." This is made with one of the tasteless forms of cascara and is both tasteless and odorless. Whether the tasteless forms of cascara are as active as the others is a moot question. However this may be, a serious objection to this preparation is that it contains two substances having different actions, one acting mechanically by softening the feces, the other as an irritant to the intestinal wall. It is impossible to increase the dose of one without increasing that of the other also. It is much more rational, therefore, if both agar-agar and cascara are indicated, to give them separately, in order to be able to vary the doses of each independently.

Agar-agar is sometimes eaten dry in the stick form, but is more often cut up into small pieces and eaten like a cereal with cream and sugar. It has almost no taste but a rather characteristic gelatinous feel in the mouth. In other instances it is mixed with cereals or cooked in with soups or broths. Schmidt cautions against using it in a too finely divided form, as the rapid swelling from the absorption of moisture in the stomach may cause colic and diarrhea.

I have seen no report of the use of agar-agar in the treatment of constipation in children. Some authors say, indeed, that it should not be given to young children. They do not state, however, why it should not. As there seemed to be no very evident reason why the action of agar-agar should be different in children from that in adults, and as the type of constipation helped by agar-agar is not at all uncommon in childhood, it seemed reasonable to me to try it in spite of these statements. I have, therefore, during the past winter, given it to a number of children suffering from this type of constipation. Their ages varied between 2½ and 8 years. The results have, on the whole, been very satisfactory. It has, in this type of constipation, given much better results than the administration of fruit, vegetables, coarse foods and preparations of bran, or the ingestion of large amounts of water. In many instances it has been possible to stop the use of laxative drugs and in all to diminish their doses. In one instance, however, it seemed to lose its effect after a few weeks. In others it has been possible, after a time, to omit it entirely.

The greatest difficulty encountered has been in inducing the children to take the agar-agar. None of them will take it dry or simply with milk and sugar like a cereal. Some of them will carefully separate out each piece in their mouth and spit it out when it is mixed with cereal. Most of them can be induced to take it in this way if it is cut up into flakes about the size of bran and cooked in with the cereal. It can usually be given to the others in broth or soup, if it is thoroughly cooked before it is mixed in. Several hours' hard boiling are required, however, before it becomes homogeneous enough to mix well; otherwise it will surely be detected by the child.

The dosage is rather indefinite, as the quantities usually given to children are too small to weigh on ordinary scales and hard to measure in spoonfuls because of the comparatively large size of the flakes. Children of 4 or 5 years need, as a rule, about two teaspoonfuls of dry flakes, the size of dry rolled oats, daily. This weighs about one dram. Fortunately no harm can result from either an underdose or an overdose, and after a week or two the amount necessary for the individual child is easily fixed.

CONCLUSIONS

Agar-agar is useful in children, as in adults, in the treatment of the type of constipation associated with small, dry stools. It is harmless and in many instances gives most satisfactory results.

70 Bay State Road.

2. Mendel: Zentralbl. f. d. ges. Physiol. u. Path. d. Stoffwechs., 1908, No. 17.
3. Schmidt: München. med. Wchnschr., 1905, ii, 1970.
4. Gomperts: Am. Jour. of Med. Sc., October, 1909.

ABSTRACT OF DISCUSSION

DR. ALFRED FRIEDLANDER, Cincinnati: I have used this mixture of agar-agar and cascara with satisfaction by mixing it with some of the desiccated breakfast foods, or with stewed fruits. In this way there has been no difficulty in administration. Doses of about a teaspoonful to children four or five years old gave a satisfactory result, and no bad habit was ever formed in my experience, even if the dose had to be increased.

DR. C. G. KERLEY, New York: I am sorry that I cannot corroborate Dr. Morse's observation. I have found agar-agar very difficult to give. It answered all right for a time, and then lost its effect. I have given it in over forty cases, and my results were not at all satisfactory. My results at first were about the results we get from most cathartics, and the effect gradually fails. The difficulty in getting a child to take it and the absence of good results did not warrant its continuation.

DR. GODFREY R. PISEK, New York: I have also experimented with agar-agar, and can corroborate what has been said about the difficulty of administration. With oat-meal it was taken better than in any other cereal, but the difficulty in getting the child to take it was a great disadvantage. There are a number of selected cases in which I believe agar-agar is beneficial, that is, in those in which there is a deficiency in the amount of the feces and those that have had all manner of drug treatment. These patients react because of the bulk which is left in the intestine, although one is sometimes obliged to stimulate the discharge of the feces by a suppository. At the same time, the fecal movement is softer and larger than ever before, and the parents are satisfied that

progress has been made toward relieving the obstinate constipation. This is so in a limited number of cases, however. I have lately also tried beet-root, but am not as yet prepared to give a report on these cases.

DR. J. L. MORSE, Boston: I am sorry that Dr. Kerley has had so much trouble with agar-agar, and I wish he would try it again. I want to repeat that agar-agar is not a drug, at least, I do not consider it a drug. It is merely a method of keeping the feces moist and increasing their amount. It does not have any irritant action on the intestine.

THE PRACTICAL USES OF ELECTRICITY IN MEDICINE *

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While it is true that electricity is an agent of much practical therapeutic value, it is also true that it is looked on with skepticism by a large number of the profession. The reasons for this would seem to be two-fold: First, the great majority of those who employ it do so without a proper understanding of its capabilities, limitations and the proper technic, and hence do not get the results they expect. As an example of this I not long ago saw a patient with paralysis of the arms due to a neuritis induced by lead, to which the faradic current had been ordered applied for twenty minutes twice daily by a prominent physician. The uselessness and possible harmfulness of such a procedure will be apparent to all acquainted with the proper use of electricity. In hospitals also the electricity is frequently applied by a nurse, who, as a rule, has received no intelligent instruction in its use. Second, some of those who have made a special study of it, have in their enthusiasm made such extravagant claims on slight evidence that many have come to look on all claims made for it either with distrust, or attribute any beneficial results to its psychic influence alone.

THE DIFFERENT CURRENTS AND THEIR PHYSIOLOGIC ACTION

The passage of the electric current through the body does produce actual changes in functions and tissues and for it to be used at all intelligently some knowledge of these varied physiologic actions is essential. These differ somewhat in degree according to the form of current used. There are now employed therapeutically the galvanic or constant, the faradic or induced, the sinusoidal, static and high frequency currents. *X*-rays while due to electricity, and the various forms of light which may be produced by it, are not considered here.

THE CONSTANT CURRENT

The constant current possesses all of these actions to a greater degree than any of the rest. In the other forms of current some are either absent or so slight as to be practically disregarded in considering the indications for their use. The therapeutic activity of the constant current depends principally on its so-called polar effects, which occur at each pole, the interpolar effects occurring in the region between the poles, and its power of producing muscular contractions. The first consist of electrolysis, phoresis and electrotonus. By its electrolytic action the tissues of the body, composed principally of salines in watery solution, in the region of the poles are decomposed into their ultimate elements or ions, with the result that the anions, oxygen, chlorin and acids appear at the postitive pole or anode and the cations, hydrogen, alkalies and bases are found at the negative pole or kathode. If the current be sufficiently concentrated, caustic and destructive effects are characteristic at each pole, the positive pole particularly searing the tissues by the acid generated, and thus stopping hemorrhage.

By phoresis the fluids and solids either in solution or small particles produced by the electrolytic action just mentioned are transferred from one pole to another, the bulk of the fluids, hydrogen, alkalies and bases (cations) going from the positive to the negative pole and a lesser amount of fluid with oxygen and acids (anions) passing from the negative to the positive. There is thus a double current passing between the two poles. The former is known as cataphoresis and may be employed in therapeutics for the introduction of various drugs into the body; the second is known as anaphoresis and under some conditions, as when it is desired to introduce an acid, may be employed as cataphoresis is. In addition, osmosis is increased, fluids being driven from the anode to the cathode. By this property also we have an accumulation of fluid at the negative pole and consequent vascular congestion, while at the positive pole there is depletion. If the current is weak, these changes are not noticeable, but they are occurring. The electrotonic effects consist of the production of catelectrotonus, or an increased excitability of muscle and nerve produced by the negative pole or cathode, and anelectrotonus, or diminished excitability of muscle and nerve, produced by the positive pole or anode. Muscular contractions are only produced when there is a sudden increase or decrease of the current density, in other words when the circuit is either suddenly opened or closed. While the various phenomena just mentioned are observed most markedly at the respective poles, electrolytic and phoretic effects also take place in the region between the poles. As has been previously stated, whenever the current passes through an electrolyte electrolysis occurs and when it does occur the ions of the decomposed molecules are transferred from one pole to the other according as they are anions or cations. The constant interchange produces metabolic and vascular changes, which facilitate the absorption of morbid exudates and adhesions. To a certain extent also the galvanic current possesses bactericidal properties, but as it is only with very strong currents, it cannot be employed practically for this purpose. It may be said, therefore, that the positive pole is sedative to nerve and muscle, hence may relieve pain and spasm; is capable of diffusing drugs through the skin (cataphoresis, anodal diffusion), is depleting and hemostatic. The negative pole is stimulating to nerve and muscle, hence improves their nutrition, increases moisture and congestion, and if strong concentrated currents are used is most destructive to tissue.

THE FARADIC CURRENT

The faradic or induced current has no power to produce the polar and interpolar effects possessed by the galvanic current, but is an efficient agent in causing muscular contractions; except when the lesion is in the peripheral neuron; i. e., peripheral nerves, nuclei of the cranial nerves and cells in the anterior horns of the gray matter of the cord. It also, when rapidly interrupted, acts as a sedative to sensory nerves and thus may relieve pain. In this respect it is believed to be more effective if a fine wire coil is used. If used with a dry

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

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fine-point electrode as the metallic brush, so that the current is at high tension, it stimulates the sensory nerve-endings and may be of value in some forms of anesthesia and paresthesia. As it produces contraction of the muscles it may, if a number of them are excited, cause changes in general nutrition. Weir Mitchell found that an elevation of the body temperature resulted from such use.

THE SINUSOIDAL CURRENT

The sinusoidal current is an alternating current obtained from a rotary converter or dynamo. It differs from the faradic current in that the alternations are gradual, those of the faradic being abrupt. Hence it is much less painful. It differs also from the faradic current in that it will cause muscular contractions in muscles cut off from their trophic centers (peripheral neuron lesions), and is said to be especially effective in exciting contractions of involuntary muscle. Otherwise it acts similarly to the faradic current.

THE STATIC CURRENT

The static current is unidirectional, and hence has a positive and negative pole which have different actions, the positive being sedative and the negative irritating, similarly to the galvanic current. It acts either locally or generally according to the technic employed. Sparks cause contraction of the muscles and other tissues and hence may relieve local congestion or stasis by squeezing out the fluid contents of the tissues and forcing them in the direction of the lymphatic and blood streams respectively. They thus may relieve pain and remove exudation. After the initial contraction there is dilatation of the small vessels and hyperemia. The positive spark is less painful than the negative. Similar results may be obtained by the socalled static wave current.

The spray or breeze especially if positive with negative insulation, is soothing and may relieve pain. The brush discharge, by which is meant the discharge taking place between a patient insulated and connected with a static machine and an electrode of some resisting material as wood, causes considerable local hyperemia, hence an increased leucocytosis, and has been found useful in conditions similar to those in which Bier's hyperemic treatment is indicated. The static bath is asserted to cause metabolic effects shown by increased frequency of the pulse, which may persist for some time after the treatment; a slight rise in temperature, an increase in respiratory combustion; when used with positive insulation an increase, and with negative insulation, a lowering, of the blood pressure; a tendency toward drowsiness; an increased excretion of urea and some increase in the gastro-intestinal functions.

HIGH-FREQUENCY CURRENTS

High-frequency currents also produce a local and general action. The former is produced by either the spark or effluve, and the effect is somewhat similar to that caused by the static spark, except that the contractile action is not so great. Hyperemia with increased leucocytosis and consequent phagocytic action is caused, and some believe that owing to the absorption of the ozone produced there is an increased germicidal action in the blood. There is also, owing to the capillary dilatation, more or less fall of blood pressure. A temporary lessening of the sensibility of the sensory nerve-endings also occurs. Ultraviolet rays are produced. Concentrated sparks are destructive to skin and small morbid growths. Static sparks also act in a similar way. Local influences are best obtained from either a Tesla coil or resonator, both of which produce currents of high voltage and small amperage.

Freund has asserted that the irritation of the skin and peripheral nerve-endings by these and other forms of high-tension discharge (static spark or the spark from a Rhumkorff coil) reflexly influences distant internal organs. This observation has some significance when the studies of Head[1] are considered. He showed that disease of the viscera caused certain definite areas of pain and tenderness in the skin, there being a constant relationship between the organ affected and the locality of pain and tenderness, this being due to the connection between the sympathetic supply of the viscera by means of the white rami communicantes with the spinal cords and nerves. Brief applications of either static or high-frequency sparks may cause some elevation of blood pressure. Muscular contractions similar to those caused by the faradic or sinusoidal currents are produced by currents from either the D'Arsonval or primary Tesla coils. General influences are better obtained from the D'Arsonval current, which is of lower voltage and greater amperage than either the Tesla or resonator currents. Marked changes in metabolism are produced by it. These are increased tissue changes, more rapid oxidation and increased elimination of waste products in the urine, and, according to most observers, marked diminution of blood-pressure.

EFFECTS ON BRAIN AND CORD

In addition to these various actual changes which electricity is capable of causing in the tissues of the body, must be added its action on the higher mental functions in producing mental impression or suggestion; in other words, its psychic influence. A question of some importance is whether electricity can influence directly the brain and cord through the tissues that cover them. The galvanic or constant current is the only one which seems to have any effect whatever on these structures. Erb showed that galvanization of the head, the electrodes being placed either on each temple or mastoid process, causes vertigo and flashes of light from stimulation of the optic nerves; it seems doubtful, however, that if a current of a safe strength is used enough will reach it after passing through the various coverings of the brain to be of any therapeutic value. Many believe that it will, but I know of no instance where muscular contractions have been produced by such means, and any one who has ever stimulated the exposed cortex, knows how weak a current is used to produce them. Brenner (quoted by Erb) interrupted the galvanic current that was being passed transversely through the head without producing any.[2] The spinal cord is still more protected by exceedingly thick muscles, ligaments, and membranes and a still greater diffusion of current would occur than in the case of the brain. Erb believed that it could be stimulated, and gives as proof the fact that he placed two electrodes over the vertebra, one being over those of the upper lumbar region, and caused contraction in the muscles supplied by the sciatic nerves. This, however, if the current was strong, could be produced by the diffusion of the current through the mus-

1. Head: Brain, xvi, 1, xvii, 23.
2. Le Duc has undoubtedly influenced the brain by an interrupted galvanic current. The so-called electric sleep or anesthesia being produced. Dangerous symptoms have also been caused and so far it seemes to have no practical value.

cles of the buttocks acting on the nerves. If it was caused by the current entering the spinal canal why were the sciatics alone affected?

THERAPEUTIC USES

As indicated by the title, the scope of this paper includes only the uses of electricity in medicine, but it may be said in passing that it is of use in a number of surgical affections; for instance, the employment of either the electrolytic properties of the constant current or the destructive action of static and high-frequency sparks for the destruction of small growths, nevi, moles, etc.; the production of hyperemia by either high frequency or static currents in the treatment of sprains and other local inflammation, and this property combined with the action of the actinic rays generated and the ozone liberated as a remedy for various ulcerations and infections of the skin.

NERVOUS DISEASES

The agent was originally employed medically in the treatment of diseases of the nervous system and there can be no doubt as to its value, when properly used, in the treatment of motor paralysis due to any cause. By this I mean when employed as a means of producing muscular contractions. Whether, as has been before mentioned, enough of the current can be made to reach either the brain or spinal cord to either improve their nutrition or remove sclerotic tissue is an open question. I have never seen any beneficial results from its use in this way. At the same time it must be remembered that the muscular contractions caused by it react on the nerve centers and improve their nutrition, this being especially so in conditions where there is commencing degeneration of spinal or cranial nuclear cells, as in anterior poliomyelitis, etc.

Electricity has been used in various ways in the treatment of tabes dorsalis. That it may at times relieve many of its symptoms, such as the various forms of paresthesia and pain, there is no doubt, but it is difficult to see how it can remedy the disease itself for the reason that even if the attempts to reach the cord were successful the remedy would be useless, because the disease process probably starts in the meninges and posterior nerve roots; therefore involvement of the cord is due to a secondary degeneration produced by cutting off nerve fibers from their trophic centers. As the nerve fibers of the cord, once destroyed, cannot be regenerated, when the disease has reached there irreparable damage has been done. The sedative action of the galvanic anode may at times relieve local muscular spasm; this at times may be of service in the treatment of the contractures resulting from cerebral apoplexy, especially if the weaker extensors are strengthened with the faradic current. This anodal action is also often of use for the relief of the pain of acute neuritis and symptomatic neuralgias. It may be of service in chronic neuritis, especially sciatica, but in such cases better results are usually obtained from either the static or high-frequency currents employed to produce their local hyperemic and contractile action. Most satisfactory results can be obtained in such cases by the proper use of these currents.

The good results that may be obtained in hysteria are well known, such results being due both to the power of causing mental impression and also, possibly, in some instances, the general tonic action of the current.

Electricity may also be of service in neurasthenia. The headaches and other aches and pains are certainly helped by the static spray. More vigorous treatment may also aid in arousing dormant energy and increasing blood pressure. In some cases good results may be obtained from employing either high frequency or static currents to obtain their general metabolic influence. There can be no gainsaying the favorable influence of general faradization as a part of the rest treatment.

Sexual weakness and psychoses are certainly benefited by electrical treatment.

In the occupation neuroses I have tried various forms of electricity without much satisfaction. Some, however, have claimed good results. As many of these cases are neurasthenic it may be of service with other measures, as a general tonic.

The use of electricity in epilepsy has been advised by some. From the very nature of the disease, however, it is difficult to see how it can be of service. Those who have had large experience in the treatment of the disease have nothing good to say for it. Many cases of so-called epilepsy, also, will be found, if carefully studied, to be due to various organic causes that electricity cannot influence. As autointoxication has some influence in exciting the paroxysms, the asserted eliminative action of high-frequency currents may prove of benefit in some few cases.

The same may be said for its use in chorea, which, if of the ordinary Sydenham's variety, is probably due to an infection, and if of the hereditary type is due to organic changes of the brain-cells and fibers that could not be influenced by electricity. The importance of not using this agent in a haphazard way is shown by its possible employment in myasthenia gravis, a disease in which there is marked exhaustion of the muscles following exertion. One ignorant of the symptomology and history of this disease might be tempted to employ electricity as a muscle tonic when the very exciting of muscular contractions by this means would aggravate the condition.

In mental diseases electricity is of use only in stuporous conditions. In these benefit may sometimes be derived from the application of static sparks as a means of arousing the patient.

ARTHRITIS AND MYALGIA

Since the development of high-frequency currents the range of usefulness of electric treatment has much increased. One of the most valuable has been in the treatment of diseased joints. This is probably due to their power of producing hyperemia. The joints in rheumatoid arthritis especially may be much benefited by their use. In conditions of partial ankylosis following arthritis the absorption and removal of the morbid tissue may be often hastened by utilizing the electrolytic and cataphoric properties of the galvanic current.

Lumbago and manifestations elsewhere of so-called muscular rheumatism may be often quickly relieved by the proper use of electricity.

VISCERAL DISEASES

Williams[3] and others have advocated high-frequency currents in the treatment of tuberculosis of the lungs and have claimed excellent results. It can do no harm, but if used other recognized and more commonly used methods of treatment should be employed in conjunction. In diseases of the stomach the use of the current has been advised by Ewald, Einhorn, D. D. Stewart and others. It is most applicable in conditions where there

3. Williams: High Frequency Currents, p. 106.

is either atony, dilatation or functional pain. In chronic constipation from intestinal atony excellent results are obtained.

The lowering of arterial tension by high-frequency currents, especially the D'Arsonval, has been previously mentioned. It has been used for this purpose by many, but that it possesses any advantages over other methods of treatment I am unable to say. The eliminative properties have also been used in chronic nephritis with asserted success and in conjunction with other measures it may be of some help.

The value of the coagulating power of the galvanic anode in the treatment of sacculated aneurism is well known. Hunner[4] of Johns Hopkins University collected reports of 23 cases, in which there were 4 cures and 9 patients were markedly improved. Other successful cases have been reported since.

The frequency of the heart in exophthalmic goiter may also at times be lessened by the employment of the galvanic current.

Electricity has been found useful in many diseases of the eye. As this, however, is a subject of special interest and not within the domain of general medicine, I will do no more than mention it. The same may be said of diseases of the skin. In addition it may be said that the development of high-frequency currents has greatly increased the value of electrical treatment of many of these diseases.

GENITOURINARY AND PELVIC DISEASES

Electrolysis has been employed in the treatment of urethral stricture by a number of different methods. While successful in some cases, the method has not found favor with genitourinary surgeons. Electricity has also been employed in various ways in the treatment of prostatic hypertrophy, but has not met with much favor. More can be said of its use, especially currents of high frequency, in chronic prostatitis. Disorders of the genitalia of women of a medical nature, as distinguished from those purely surgical, may be benefited by the proper use of electricity. B. C. Hirst advises the use of the galvanic current in amenorrhea, in menorrhagia, especially when due to fibroid tumors, and in hypoplasia of the uterus, and the faradic current for weakness of the vesical and rectal sphincters. It has also been employed in other conditions of these organs of a more distinctly surgical nature with asserted success. As a rule, however, in such cases surgical methods will be found preferable.

Of no small therapeutic value is the property of cataphoresis by which drugs can be introduced into joints and certain cavities of the body.

CONCLUSION

In the space allotted it has been possible to give but a very general mention of the capabilities of this agent. It has been of value in many surgical conditions not properly considered in this paper. It has also been employed in diseases within the domain of internal medicine which have not been mentioned here, as there seems to be no good reason for their treatment by electricity. In conclusion I repeat that to get results from the use of this agent it should be used conservatively, with proper understanding of its physiologic action and of the proper technic.

1728 Chestnut Street.

4. Bull. Johns Hopkins Hosp., November, 1900.

ABSTRACT OF DISCUSSION

DR. G. BETTON MASSEY, Philadelphia: This interesting paper is an up-to-date statement of the value of electricity in many medical affections; but it indicates one of the errors of my colleagues in presenting electrotherapeutic subjects in too general a way. While we have here an enormous range very well stated of electrotherapeutics in this late day, I think we learn more from a discussion of more circumscribed subjects, with the technic equally well stated but with some portion of the statement in the shape of detailed cases; for after all, our work as physicians is the relief of individual patients. Only last night I was asked to see in consultation in this city a patient in whose case the value of electricity in a hemiplegia case was involved. I knew of nothing to lead me to say that it would be of any value. The academic statements proving the transmission of the current are familiar to us, it having been proved that a minute current will go through the brain after having traversed the living skull structures; but it has also been proved that the bulk of the current will go round the scalp structure. So that in practical medicine we do not need to waste much time on some of these questions of that nature. We want to get down to the actual clinical facts.

It is a mistake to regard electrotherapy as a new subject. I was only recently on the other side at the Physiotherapeutic Congress in Paris, and the scientific exhibit in the hall of the Sorbonne showed ancient apparatus designed by medical leaders for most of our uses of electricity. It is nothing new. The new thing is to bring down to the concrete what we can do for the individual patient by this form of force.

Speaking of hysteria, I fancy the usual feeling about the treatment of this affection is that we must put the patient to bed and carry him through an expensive rest-cure treatment. That is of very great value in the hands of experts, but the ordinary practitioner can often do better than to employ the rest-cure, static electricity being of extreme value in this state. Moreover, it enables us to differentiate between hysteria and neurasthenia, which is a very important matter, particularly if the rest-cure is contemplated, for I think the rest-cure is generally harmful in neurasthenic patients. This test is based upon the fact that static sparks are most painful to neurasthenic patients, and possibly harmful too, while but little pain is produced by them in hysteria. The differential value is in that a large number of hysterical patients show more or less anesthesia. In other words, the static spark is wonderfully well borne by the hysterical patient. Moreover, the patient feels better immediately after the application of the static spark. So that with this method of treatment such patients may be kept on their feet and have the benefit of exercise and other judicious agents. Speaking of the prostate, Dr. Potts made an excellent distinction there. We have a true fibroid tumor of the prostate of the slowly developing form and greatly interfering with the functions of the bladder, and in these cases electricity is not quickly valuable. But the static spark even in these cases will give great relief, removing congestion, relieving the prostatitis and often practically curing the patient; and that is to be expected in cases of pure prostatitis or chronic enlargement of the prostate. I am a little amused that Dr. Hirst, a very recent advocate of electricity in fibroids, is quoted by Dr. Potts as an authority on the subject. It is very pleasing, however, that Dr. Hirst accedes to that sixteen-year old propaganda as to the value of electricity in many gynecologic conditions, particularly in fibroid tumors of the uterus. There seems to me a peculiar value attaching to electric modalities in gynecology, partly due to the fact that we use here very large, commanding currents, currents capable of doing work because of their lack of pain. The field in gynecology is enormous.

DR. DAVID PAULSON, Hinsdale, Ill.: I want to speak of the value of the slow sinusoidal current in relaxed conditions of the abdominal wall. With the sinusoidal current it is possible to produce the most vigorous contraction of the abdominal muscles as well as contractions of the internal ligaments, by simply placing two large electrodes on each side of the abdomen. If persisted in day after day these temporary ef-

fects unultimately become more or less permanent. It is possible to make a very strong application of the sinusoidal current without producing any pain; hence its great value in these cases.

DR. ALFRED T. LIVINGSTON, Jamestown, N. Y.: It has been implied that the electric modaljty called galvanism is not particularly efficacious or at least has not many appropriate applications. As to the effect on the brain secured by passing the current through the skull, I think Dr. Massey has made a correct statement; but that is not the way to influence the brain. The brain condition is influenced by stimulating the vasomotor centers which control the circulation in the brain; and that can be done without any question by the application with sponge tip electrodes or some other form, over those three chief centers, the upper, middle, and lower cervical sympathetic ganglia. I have always observed that the stimulation of the lower pair has the most marked effect on the circulation in the head. I recall one of the most extreme cases of acute mania in a woman in Philadelphia, who was brought to my house at about 8 p. m. It seemed from her state that there was not much likelihood of securing sleep, but I took my galvanic battery to her bedside and solely by the use of the galvanic current I put that woman to sleep within three-quarters of an hour by stimulating the cervical sympathetics. I have also used it in cases of hysteria, hysteric convulsions. Dr. Massey referred to the use of the static spark in hysteria. If I were to be limited to but one form of electrictity, I would certainly select the oldest of all—galvanism—as having a wider range of application and more certainty of effect than any other. I have also used a hypodermic injection of ergot and within fifteen minutes I have quieted as excited a hysteric patient as I have ever seen. I am perfectly satisfied that the effect of the galvanic current is exactly the same, producing vascular contraction where there had been dilatation. I have used the galvanic current in cases of blindness of various sorts, particularly in cases of atrophy of the optic nerve, and restored a very good vision which continued through many years. Patients whom I treated twelve or fifteen years ago are going about the streets to-day like other people, attending to their business although their cases had been pronounced absolutely hopeless by ophthalmologists, and I was ridiculed for thinking of bettering their condition. I apply the positive pole at the back of the neck with an electrode of 4 by 6 inches. The negative is applied by means of clay electrodes, pulverized clay moistened by water to a paste condition and laid directly on the closed lids, the face except the lids being protected by a piece of rubber dam having holes corresponding to the orbits. A pliable metallic electrode such as tin foil is laid over the clay and connected with the negative pole. In this way I have given 15 milliamperes for two and a half hours.

DR. H. M. WHELPLEY, St. Louis: I regret that the author of this paper is not present to explain the purpose for which he wrote it. Previous speakers have criticized the paper as being one which has not given specific cases or detailed technic. I believe that the purpose of the author is to show that caution must be exercised in the proper use of electricity. He points out the variety of forms in which it can be used but avoids going into the citation of detailed cases, which causes so many of the medical profession to rush headlong into the use of electricity without understanding when, where, or how to use it. This paper is filled from beginning to end with the suggestions of caution in the use of electricity. I recall the frequent use of such phrases as "some believe," "Dr. —— has claimed," "it is stated," "it may have benefited," "it seems doubtful," etc. This paper is a warning to the medical profession to study electricity carefully in a general way before giving too much attention to reports of specific cases. The use of electricity in medicine is nothing new, but this paper indicates that it is often used carelessly. Its use by the laity is along very empirical lines; I believe that a paper of this kind full of cautions and written for publication in the newspapers would have a wonderfully good effect on the public. We know only too well how ready the public is to use electricity as a medical agent; laymen buy so-called batteries and other forms of apparatus claimed to produce electricity when there is no possibility of its being generated by the apparatus that is sold for that purpose. I feel that the paper from the standpoint of the author is not subject to criticism that has been made of it by the previous speaker. It does not go into the details of cases and technic, but it does sound a timely note of warning to those who use electricity in a haphazard manner.

DR. HAVEN EMERSON, New York: If a quarter of what is so conservatively claimed by Dr. Potts' paper is correct, certainly the medical schools of the country ought to take on themselves the burden of teaching some of the elementary principles of electrical application in the treatment of disease. If anybody has seen the relief from lumbago and sciatica, if anyone has seen the improvement in chronic joint affections which electricity will give, I think he will admit that electricity deserves as much consideration in the courses of medical instruction as a good many of the drugs which are now admitted as valueless in the treatment of disease. The teaching of intelligent pharmacology has eliminated a good many drugs from our class rooms. The inclusion of some such methods as Bier's hyperemia and electricity in the teaching of applied therapeutics will certainly help us in diffusing a knowledge of appropriate treatment. I am of the opinion that electricity assists in restoring the tissues to normal, after chronic inflammation, by improving local circulation, by developing hyperemia, and that in exact experimental analysis of the results we should find that this is the cause of its benefits. Massage, constriction, hyperemia, and electrotherapeutics deal with the local blood-supply. Such measures are as useful as many a drug taught and prepared in pharmacologic studies, and their consideration should be included in our medical schools.

DR. G. BETTON MASSEY, Philadelphia: I appreciate Dr. Whelpley's skill in extracting from this paper what suited him, but I must object to his failure to remember that I spoke very highly also of Dr. Potts' paper. I must protest that we are not here for newspaper articles. We are here to advance each other's art of treatment, and mere negations will not help us.

CLIMATIC TREATMENT OF PELLAGRA

A PRELIMINARY NOTE

C. C. BASS, M.D.
NEW ORLEANS

All writers on pellagra seem to agree that it is a disease of warm countries and of the warm season; that patients with the disease usually improve at once when cold weather sets in, and that many of them never show further evidence of the disease. The literature at my disposal does not show that cold climates have been tried for the treatment of the disease, owing largely, no doubt, to the fact that many pellagra patients cannot afford the expense of going to and of living in such climates. In a paper published in 1909 I called attention to the probable influence of temperature on the course of pellagra.[1]

On several occasions in discussions on the subject last year, notably at the pellagra conference in Columbia, South Carolina, in the symposium on pellagra of the Southern Medical Association, and at the conference on pellagra at Gulfport, Mississippi, I also called attention to this fact and proposed the advisability of arranging artificially refrigerated wards, especially for the poorer class of pellagra patients who could not take advantage of climate.

In June, 1909, I had arranged, with very limited means at command for the purpose, an artificially refrigerated room for a pellagra patient then under treatment.

1. New Orleans Med. and Surg. Jour., August, 1909.

This was a mechanical failure, as it reduced the temperature only about 12 degrees, which was very little below the summer temperature.

I had the fortune to see in the spring of 1910 a patient with pellagra who had gone to Colorado for similar symptoms in 1909. She was then greatly relieved by the climate, according to her statement, and remained well; but the same influences of diet and hot weather induced another attack. She returned to the mountains of Colorado and was promptly relieved of all recognizable symptoms.

Since that time I have sent to Colorado four other patients, all of whom are symptomatically relieved. They have all gone to Denver and after spending a few days there to become accustomed to the altitude, three of them have gone higher up in the mountains. One of them was bed-ridden when she left here but was up in ten days and without recognizable symptoms of pellagra in two weeks.

I have sent two patients to Monteagle, Tennessee, and they write that within one week they had improved wonderfully and almost all symptoms had disappeared.

These cases and others will be reported more in detail when the results obtained can be more definitely stated. This preliminary note is published now in order to suggest the treatment for the benefit of the August and September crop of cases.

741 Carondelet Street.

PARSIMONY IN NUTRITION

GEORGE M. NILES, M.D.

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ATLANTA, GA.

This title, adapted from a recent address of Sir James Crichton-Browne, represents a wide-spread dietetic movement which I view with some concern. Previous to this century, throughout the history of the advancing civilizations of the earth, there has never been any concerted effort toward parsimony in nutrition; and, with the exception of certain ascetic orders, whose habits of self-denial were either religious or esthetic, the desires for food have been universally gratified, subject only to limitations of purse or environment. The doctrine that a strong body should be generously fed, and that a virile people should be hearty eaters, was of world-wide acceptance. Furthermore, it was noted that the liberal consumers of the flesh proteins figured most largely in the arts of both peace and war, while the vegetarian nations either lagged behind, or were the servitors of their meat-eating masters.

In accordance with these historic and economic facts certain dietetic standards have been fixed, these standards being the aggregate result of statistical and experimental studies carried out by many physiologists on numerous large groups of individuals under varying circumstances. These results were collected by Atwater, of this country, and Voit, of Munich, who found that an average individual under average conditions throve on a daily allowance of 118 gm. of protein food, 56 gm. of fat, and 500 gm. of carbohydrates, such as sugar and starch, this containing 3,055 large calories, or heat units. Under increased physical exercise this was raised to 3,370 calories. These findings were approximated by a large number of independent observers, most of them, however, allowing a slightly higher daily protein ration.

These standards having been settled with supposed immutability, all was serene until in the dietetic firmament there appeared a new galaxy. We were informed that the theories drawn from the dietetic experience of untold millions of progressive and militant human beings, were altogether erroneous; and, like the man with the eight-day clock, who wound it up every night for twenty-five years before he discovered his error, we have been partaking of double or treble the amount of protein necessary for our well-being. We might say that after these eons the light has just broken in, opening up to us a new heaven and a new earth.

The advance guard of this new thought was Mr. Horace Fletcher, a gentleman of intelligence and culture, who, finding himself obese, dyspeptic, and in declining health, accidentally discovered that by slow, deliberate eating he was much benefited. Being both observant and analytical, he reasoned out a theory that the whole process of bodily nutrition is materially affected by the preliminary treatment of food in the mouth; furthermore he became satisfied that by most thorough mastication and insalivation less food is required for adequate nutrition, while bodily conditions are improved. He sums up his philosophy as follows: "If you eat only when you have an earned appetite, masticate your food thoroughly, and take great care to eat only what your appetite approves, the rest will take care of itself."

Like many other fads containing elements of truth this "chewing fad" attracted to it a circle of adherents, and, fortunately for Mr. Fletcher, it caught the ear of some level-headed physiologists, among others the late Sir Michael Foster, of Cambridge, England, and Dr. Van Someren, of Venice, the latter of whom read a paper on "Fletcherism" before the Congress of Physiologists at Turin in 1901. This led to a series of experiments at Cambridge, which were later continued in America by Professor Chittenden, of Yale, the latter, however, losing sight of the chewing feature, except as it lessened the craving for food, and hinging his experiments on the momentous question: What is the proper daily protein ration best to meet the requirements of the average human body?

The investigations of Professor Chittenden,[1] are in some respects epoch-making contributions to physiology. The experiments were on groups of professional men, army volunteers, athletes and animals, and proved to his entire satisfaction that 60 gm. of protein daily is sufficient for a man weighing 154 pounds, or practically one-half of the previously accepted standard. To quote his words:

> **These are perfectly trustworthy figures, with a reasonable margin of safety, and carrying perfect assurance of really being more than sufficient to meet the true wants of the body, adequate to supply all physiological demands for reserve protein, and able to cope with the erratic requirements of personal idiosyncrasies.**

The limits of this paper will not permit an analysis of Professor Chittenden's experiments, showing where fallacies may exist, or where conclusions are drawn on too meager evidence. He is a doughty antagonist, and one may well hesitate before breaking lances with either him or the formerly obese Mr. Fletcher. They have

1. Chittenden: Physiological Economy in Nutrition; and The Nutrition of Man.

made out a strong case, but not an impregnable one, and I humbly suggest that we pause and consider before revising our whole dietetic system, not simply, as expressed by the recent tariff tinkers in Congress, "revising it downward," but absolutely cutting it down to half.

That a large percentage of the American people eat too much is admitted; that a large percentage, especially the well-to-do, ingest a surplus almost from the cradle to the grave cannot be gainsaid. The great number of middle-aged and old people, who constantly throng the doctors' offices and health resorts, seeking help for overtaxed eliminative organs, mournfully attest to past gastronomic excesses; but that the American people, as a nation, consume too much protein food, or that our national virility is handicapped by gluttony, cannot be conceded by any student of present-day history.

Leaving for a time the discussion of this subject in its larger aspects, a common illustration of parsimony in nutrition is the custom of some medical men of putting patients on dietaries without duly considering the caloric values contained therein. It would be thought careless indeed should the physician, not know, in prescribing atropin or strychnin, how much in the aggregate was being taken daily; yet it is just as irrational to expect an invalid to gain strength on a diet furnishing insufficient calories, as to expect physiologic effects from inadequate doses of drugs.

I have several times seen persons unwittingly starved to a dangerous degree, and in one instance a case came under observation in which the patient, while being treated for an acute disease, was really starved beyond the power of recuperation before his true condition was recognized.

The appetite of healthy individuals or large groups of men will generally prove a reliable index to bodily needs, but in digestive disorders accompanied by malnutrition it is not enough for the physician to cut out offending articles of food; he should also see to it that sufficient calories are being furnished. Right here it is proper to sound a note of warning concerning the alcoholic proprietary foods on the market. As an auxillary to other nourishment they have their place, and are not without value, but to give them in amounts large enough to meet ordinary caloric needs would result in continued alcoholic intoxication.

A few years ago in New York City I saw a genuine attack of delirium tremens complicate a case of typhoid fever, in which for two weeks the patient had been generously "supported" by a well-known and popular proprietary food. In this connection I wish to commend the thorough and impartial work of the Council on Pharmacy and Chemistry of the American Medical Association, whose very lucid reports have done much to dispel the glamour thrown about some of these alcoholic "supportives" and individually I desire to speed it in its meritorious labors.

The dry proprietary foods are equally unsatisfactory, because in adequate quantities they often disturb digestion more than the ordinary wholesome foods, while the caloric value claimed for them is unreasonable. Dr. David Edsall, of Philadelphia, recently weighed a specimen of one of these dry foods, and reported that if all its weight were nutritive material (a liberal estimate), it was so light that it would take $1.25 to $1.50 to buy an amount equal in food value to a five-cent loaf of bread.

Some of the most graphic examples of parsimony in nutrition are exhibited by infants (not the chubby ones with roly-poly little bodies extolling the virtues of various brands) whose eager digestive organs are vainly attempting to glean sustenance from some of the infant foods on the market.

Dr. John Howland, of New York, in a late paper on proprietary and predigested foods, showed by calculation that two of the most representative and widely used of these foods have little more than twice the nutritive value of whole milk, and that without the alcohol they contain the same nourishment as milk. The dose of these foods advised for a child of six months is a teaspoonful every four hours, which would give the infant the munificent equivalent of two ounces of milk daily! Dr. Howland further says:

> **Assuming that such a food could be ingested without grave gastric, intestinal or other disturbance in sufficient quantity to nourish the six-months-old infant, it would cost about a dollar a day, and would, moreover, require the child to take in twenty-four hours alcohol equivalent to six ounces of brandy, enough to terminate his short life or keep him in a continuous state of alcoholic coma.**

Another greatly overrated class of foods leading to parsimony in nutrition are the meat-juices (not meat extracts), for which fabulous powers have been claimed. Well-expressed juice obtained from freshly chopped beef may contain a fair amount of actual nourishment in the form of coagulable proteins and meat bases, and is useful to tide over emergencies, or to satisfy the patient that he is being fed. It would take the stomach of a rhinoceros, however, to hold up under a continuous diet of meat juice for any length of time.

As to meat extracts, they are beyond parsimony—they are a delusion and a snare. To quote Dr. A. L. Benedict, of Buffalo.

> **A meat broth prepared at a temperature above 160° F., the coagulation point of albumin, contains salts, extractives, which are mainly excrementitious, and a little gelatin, as well as some melted fat, although the last is often skimmed off to make the broth more pleasing and palatable. In so far as protein is concerned, a meat tea made by boiling cannot be more nourishing than egg tea, that is to say the water in which eggs are poached, or in plain words, it contains no protein nourishment at all, and is, barring certain qualitative and quantitative differences, of the same dietetic value as urine.**

On such a regimen the patient may be fairly waterlogged with soup, and still get less than a hundred calories daily. If strength holds up under such feeding, it is from the reserve protein and fat stored in the body, not from any decided nutritive virtue in the soup.

It is of course wise to provide for economical use of the body fuel, just as engineers endeavor to get the most heat value from coal or wood burned in the furnaces of their engines. It is also well to minimize the surplus ashes of combustion in the body, as the engineer keeps his grates cleared of clinkers. There is, though, a point beyond which economy ceases and parsimony begins, and there can certainly be no permanent healthy growth, nor can there be maintained a normal "moving equilibrium" in the bodies of individuals or nations unless there is a liberal intake of protein food, for, as Rubner declares, "A large protein allowance is the right of civilized man."

Sir James Crichton-Browne tersely puts it thus:

> **The health and welfare of individuals and of peoples must depend on right methods of living, and of all methods of liv-**

ing the most momentous are those relating to the up-keep of the body by alimentation. It is food that supplies the material for that perpetual series of transformations in which life consists, and it must be adequate in quantity and suitable in quality, if these transformations are to proceed with that nicely balanced adjustment that is known as health. . . . Nutrition is therefore an important branch of preventive medicine.

It may be confidently asserted that no physiologic alchemy or mathematical legerdemain can ever hope to reduce materially the fixed demand for approximately 120 gm. of protein daily for every active individual of average weight. The late Sir William Roberts once said:

The generalized food customs of mankind are not to be viewed as random practices adopted to please the palate or gratify an idle or vicious appetite. These customs must be regarded as the outcome of profound instincts which correspond to certain wants of the human economy. They are the fruit of colossal experience accumulated by countless millions of men through successive generations. They have the same weight and significance as other kindred facts of natural history, and are fitted to yield to observation and study lessons of the highest scientific and practical value.

The foregoing thoughts are respectfully submitted to the sober students of both individual and collective problems of nutrition.

409 Candler Building.

A CASE OF FRACTURE OF THE THYROID CARTILAGE WITH PROMPT RECOVERY

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Fractures of the larynx are generally considered grave injuries. When one considers the danger of suffocation from displacements of the fragments, or from edematous swelling, or from occlusion of the air-passages with blood-clots, one can understand why a case of this kind should not be looked on lightly. Fisher pronounced every case serious. Gurlt in 1864 collected reports of 69 cases in which 47 patients died and only 21 recovered. Eastman[1] quotes Durham, who collected reports of 30 cases of fracture of the thyroid cartilage, in ten of which the patients recovered, most of them after tracheotomy. During the past few years a few cases have been reported in which the symptoms were of a mild type. The "American Practice of Surgery" states that tracheotomy is not usually necessary in the simple cases and those of vertical fracture of the thyroid, but is indicated in any fracture of the cricoid cartilage. The case I observed was one without complications. Because it shows how exceedingly light the symptoms resulting from such a fracture may be I thought it worthy of publication.

An insane man (aged 49) was forcibly struck over the larynx by a fellow inmate. At the time no indications of injury were observed, and the patient went to the dining-room and ate his breakfast. Soon some hoarseness developed. This soon became more pronounced, and his throat appeared somewhat filled up with mucus. There was a constant desire to swallow. An examination disclosed a complete vertical fracture of the thyroid in the median line. Crepitus was distinct, but there was no apparent displacement. As there were no dyspnea, and no sign of suffocation, it was thought best to immobilize the fragments and await further developments. Immobilization was secured by padding on each side held in place by adhesive strips. As swallowing caused slight movements of the fragments, the patient was allowed no food for twenty-four hours. His voice continued hoarse for four days; then there was a rapid improvement. On the seventh day the fixation strips were removed, and a perfect union was found. On the ninth day the patient was up and about as usual.

Some surgeons believe that tracheotomy should be performed immediately after such an injury in order to forestall suffocation. Eastman[1] refers to Cohen, who says: "It is better that an unnecessary tracheotomy should occasionally be performed without detriment to the patient than that a number of cases should be allowed to terminate fatally for the want of it." This is very true, but if the symptoms are of a mild type and the surgeon is in a position to render immediate service if the case demands it, one is justified, I believe, in delaying active procedure.

If the patient be allowed to swallow too early the fragments will be moved and union interfered with. Weaver's patient[2] attempted swallowing at long intervals during the first twenty-four hours, but this moved the fragments. Weaver then resorted to nutritive enematas for three weeks. Tube-feeding through the mouth can be used to advantage in cases in which the throat is not too sensitive, so as to cause reflex movement of the larynx.

I take this opportunity of expressing my thanks to Dr. Chas. W. Pilgrim, Supt. of the Hudson River State Hospital where this case was observed, for the privilege of reporting it.

1. Eastman, T. B.: A Case of Fracture of the Thyroid Cartilage; Recovery without Tracheotomy, THE JOURNAL A. M. A., 1895, xxiv, 161.

A VOLSELLUM FORCEPS WITH DETACHABLE HANDLES

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Occasions frequently arise when curettage, or in fact any vaginal operative interference on the uterus, has to be done without sufficient assistance. In many cases for better orientation the grasping of the uterus has to be done through a bivalve speculum. It is very difficult,

Volsellum forceps with detachable handles.

if not impossible to remove the bivalve speculum after the uterus is grasped with the ordinary volsellum forceps on account of the width of the handles of the instrument. To facilitate the removal of the speculum, I devised a volsellum forceps with detachable handles. The handles are easily applied and removed by means of a bayonet lock.

224 West Twenty-Fourth Street.

2. Weaver, H. S.: Fracture of the Larynx, Hahnemann Month. Philadelphia, 1901 xxxvi, 282.

GUNSHOT WOUND OF THE CHEST AND INJURY TO THE SPINE

WITH SPECIAL REFERENCE TO PROGNOSIS

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GAFFNEY, S. C.

I report this case to furnish some idea of the prognosis to be made in cases involving injury to the spine. The literature on prognosis in such injuries is very incomplete.

History.—The patient, a colored man, aged 21, single, laborer in a railway camp, was shot July 18, 1909 at close range with a 38-caliber revolver, the ball entering the eighth interspace on the right side one inch to the right of the mammillary line, passing downward and backward and emerging through the eleventh interspace behind in the mid-scapular line 2¾ inches to the left of the spinous process of the eleventh dorsal vertebra. The man was hauled 4 miles in a wagon and 12 on train with no dressing on either wound.

Examinations.—The pulse was 130, the temperature 102, respirations 30, paralysis of the left thigh and leg was complete. There was retention of urine and paralysis of rectum with involuntary evacuations; loss of all sensation in the left thigh and leg supplied by the musculocutaneous, external saphenous, anterior tibial, external and internal plantar, and internal calcanean and the lower part of the leg that is supplied by the lateral cutaneous and internal saphenous nerves.

Course of Case.—The patient had to be catheterized for two weeks, after which there was involuntary urination as well as defecation for six months; since that time he has improved steadily until now (twelve and a half months after injury) he can control bowels perfectly and retain his urine four to five hours. A bed-sore six inches in diameter developed over the sacral region and smaller ones over both hips, which caused a considerable amount of trouble.

Temperature ranged between 101 and 104 3/5 for a month, after which time it became normal. After two months the patient could move the toes slightly, then the foot, knee and thigh; and six months after the injury he could move the entire leg a small distance in every direction. August 9, 1910 he is walking around quite well without the use of his crutch and gives every indication of an early and complete recovery. The injury to the spinal cord appeared to be limited to the direct pyramidal tract and antero-lateral column in the left side of the cord.

800 Limestone Street.

Bilateral Herpes Zoster.—Dr. Lester C. Diddy, Oswego, Ill., writes: Reading the article in THE JOURNAL (July 30, p. 372), by Drs. Varney and Jamieson brought to mind a similar case, which occurred in my practice recently, of which the following is a brief report: Mrs. S., housewife, aged 54, American, whose family history is negative, as far as anything bearing on the present condition is concerned, had the ordinary diseases of childhood, since which time she has been healthy. There is no history of injury at the site of eruption. Pain of neuralgic character appeared several days before the lesions, which were typical of herpes zoster. They first appeared on the left side, in the dorsal region near the mid-axillary line, and gradually extended over nearly the entire left half of the chest and abdomen anteriorly and posteriorly. Lesions appeared on the right half of chest and abdomen and extended until they met those on the left side, completely girdling the patient. The lesions became very extensive and caused no little annoyance. They extended upward to the second rib in front and to the scapulæ behind, downward to the groin on the right side, and about half way down the left thigh, and down the back as far as the buttocks. The inner surface of the left arm was also affected, nearly to the wrist.

CASE OF A SPOOL EMBEDDED IN THE CERVIX UTERI

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DES MOINES, IOWA

History.—S. L., aged 16, colored, entered my service at the surgical dispensary of Drake University, July 14, with a history of pelvic trouble of some years standing. She menstruated at 13 for 5 successive periods, after which time the period ceased altogether.

Examination.—Her general condition and appearance was good and she was of average intelligence. On investigation the underclothing was found to be saturated with urine and the vulvar region was excoriated. A vegetative growth of small size and of a reddish hue, surrounded the meatus, and urine was trickling from the vagina. The examining finger came in contact with a foreign body in the vagina, which proved to be a wooden spool. Further examination showed that one end of the spool which measured about 5 centimeters in length, was securely embedded in the cervix. The free end was grasped with a pair of forceps and an attempt made to extract it, but this effort created great pain, and chloroform was administered. A more complete examination was

Drawing to show position of spool before removal, with infantile uterus and fistulous tracts from bladder and uterus into vagina.

then made. The uterus was retroverted and its body atrophied. The cervix held the spool tightly, about its middle third. One edge of the upper end of the spool through pressure necrosis, had worked its way through the uterine tissue back into the vagina.

Treatment.—As it was impossible to extract it forcibly or to dilate the canal the cervical tissue was divided at this point and the spool released.

Remarks.—The free end for the spool was covered with calculous salts and its upper edge had protruded into the base of the bladder, creating a vesico-vaginal fistula, through which the index finger could be freely passed. The girl denied all knowledge of the presence of a foreign body in the vagina, but stated that when she was about 8 years old her mother, who was very unkind to her, had placed something in the vaginal canal which gave her great pain and caused hemorrhage for a few days. She has had more or less discharge ever since, she claims, but it was not until 8 or 9 months ago that the urine began to pass through the vagina.

The length of time the spool had been in the uterus, and the manner in which it had become embedded

therein are of interest. Conception and abortion were denied, and excluding the latter, the only plausible solution seems to be, that the spool was inserted by the patient into the vagina, and as she was probably unable to remove it, the upper edge of the spool by constant pressure against the external os produced sufficient dilatation to allow the spool to pass into the cervical canal. This new position assumed by the spool then caused retroversion of the uterus, while its presence interfered with the nutrition and growth of the organ. The opposite end of the spool also assumed a more intimate contact with the bladder wall, causing pressure necrosis and a fistula. The walls of the vagina were found to be thickened, very nodular and much reduced in depth.

CONCUSSION OF THE BRAIN

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PHILADELPHIA

In this day and generation a justification is desirable when a single case is reported. This is particularly in order when the case is one of cerebral concussion. Nevertheless, on account of the extraordinary symptom-complex and course of the case in question, I offer no apology for its presentation.

History.—August 6, 1910, E. D., male, aged 6½, weight 49 pounds, in robust health, fell while running on the porch, striking the left side of his head. The time of the accident was about 4 p. m. Judging from the position of the echymosis, which was very slight, the point of impact must have been about 4 cm. above and 2 cm. behind the external canthus of the left eye.

I saw the child within ten minutes of the accident. The nurse said that after he fell he got upon his feet immediately, crying lustily. He was very pale, and the nurse thinking that he was more scared than hurt, sought to pacify him by walking. He had not gone far before he said: "I can't see anything but sky."

Examination.—My examination revealed the following condition: Total blindness in both eyes for both form and light. A lighted candle held 25 cm. from his eyes in a darkened room gave no visual impression of light. The irides reacted to light. All extraocular movements were perfectly normal. The hearing in each ear was normal. The tongue was protruded in the median line. There was no involvement of the facial muscles, and the elevation of the soft palate was normal and symmetrical. The movements of the upper and lower extremities were normal in all directions. The reflexes of the upper extremities were normal and no spasticity was present. Both knee jerks were greatly exaggerated, and although there was no ankle clonus present, yet the sudden flexion of the foot at the ankle provoked one quick reflex extension movement. Passive movement of the lower extremities demonstrated a very decided degree of spasticity. Normal plantar reflex was present on right, but a well marked Babinski reflex was elicited on the left. The pulse was full but irregular, and at the rate of 68 to 72 per minute. The breathing was deep and sighing in character, and at the rate of 16 per minute. He answered questions readily, and showed great mental distress because he was afraid he would never see again. After the examination he quickly went to sleep. He could be aroused from this sleep, and showed no predisposition to lie on either side. During this sleep the breathing still maintained the deep sighing character.

I made my second examination about one hour after the first, at which time all the symptoms as above recorded were present, with the exception that on testing the eyes with the candle he said that it seemed a little lighter when the candle was placed 25 cm. in front of his eyes. The Babinski reflex on the left at this examination was pronounced. In a half hour from this time he called a lighted candle a lighted match. In another half hour, two hours from my first examination, he was able to recognize a lighted candle as such, but could not distinguish objects, such as a pair of scissors, knife, picture, etc. From this time on his eyesight returned with great rapidity, and three hours after my first examination he was able to distinguish objects and people wth great precision. On account of his general condition I did not make any examination of his visual fields at this time. His temperature never went above 99.4 F. At 10 p. m. I found his vision normal, pulse 72, temperature 98.4 F., respiration 18. At this time I found the Babinski reflex on the left hard to elicit but questionably present. The chief symptom at this time was vertigo on motion.

Subsequent Course.—The next day he felt perfectly well except for the vertigo which was present when he was propped up too erectly in his bed. He had an attack of nausea and vomiting at 5 a. m. A careful examination for hemianopsia, astereognosis and lack of sense of position in the limbs proved negative. His reflexes were all normal and the Babinski reflex on the left was replaced by normal plantar flexion. The recovery was uninterrupted, and four days after the accident he was leading his normal life. There was never any disturbance of bladder or rectal functions. The only therapeutic treatment was magnesium sulphate to open the bowels.

The case is interesting on account of the rapid clearing up of the complete blindness, the sudden causation of the monolateral Babinski reflex, which cleared up within eighteen hours, and the very evident interference with the spinal reflex inhibitory mechanism with no symptoms of compression.

After writing the above report, the *Deutsche medizinische Wochenschrift* (August 4, 1910) has come to hand, in which is a short paper by Hirsch of Prag ("Ueber passagere Rindenblindheit durch Commotio cerebri"). There is no mention of any examination for involvement of the central nervous system, other than a careful examination of the eye. He cites Wildbrand and Sänger ("Die Neurologie des Auges") as having collected seven cases of similar nature.

111 South Twenty-first Street.

Therapeutics

GENERAL PRINCIPLES IN THE MANAGEMENT OF DISEASES OF THE HEART

As has been a number of times stated in these columns, with all our knowledge of physics, of cardiac ability and cardiac disability, of blood pressure, of arteriosclerosis, of myocarditis and cardiac muscle degenerations, with all our better knowledge of physical therapy and of the pharmacologic action of drugs, still there are no defects of mankind that are so many times mismanaged and mistreated as are cardiac defects. They are mistreated from the very fact that the drugs and methods used are powerful for good or bad, and not only may the wrong method be instituted, but too much or too little of the method or treatment may be used.

Sir James Barr, of Liverpool (*British Medical Journal*, April 24, 1909) discusses the above subject and especially urges the attempt to prevent the development of serious disease of the heart in various conditions, and especially to prevent that which is due to rheumatism. He states a fact, viz., that though the majority of sudden deaths are due to a cardiac cause, still there are very few chronic diseases so amenable to treatment and so compatible with long life and comfort, if judiciously handled, as are diseases of the heart.

As a prevention of heart disease he properly urges the prevention of rheumatism in the children of families who have shown a tendency to it. Although rheumatism is doubtless always an infection, still, like the development of tuberculosis, there is a tendency to or an inherited lack of ability in certain families to combat this particular germ. Hence Barr believes that such children should always be warmly clothed, that they should have daily baths, either warm or cold, to keep the skin in good condition, that proper fresh air and physical exercise should be taken, that they should not over-eat or over-drink, and that the bowels should move freely, daily. This simply means first class, sensible hygiene aiming to prevent poisoning with food products, and to cause increased circulation in the muscles and therefore less pressure internally, and to promote perfect functioning of the skin. The parents of children who are likely to have rheumatism should be especially cautioned to take note of everything in the line of so-called "growing pains." As there is "an increase in the formation of sarcolactic acid and all the excretions are very acid in rheumatic fever," Barr would prevent this increased acidity of secretions of possibly rheumatic children by omitting starch and milk from their diet. He believes that milk forms lactic acid during digestion. As a matter of fact, probably, in healthy digestion milk does not form lactic acid. Still such is his belief that he would not give such children milk. Also in rheumatism there is a great tendency to form fibrin; hence he would give nothing to such children that contained lime, and he would cut out of the diet cheese, gelatin and animal jellies, as well as milk. As lime also raises the blood pressure, he thinks that milk is a bad diet during rheumatism, and has condemned it since 1886. He gives as a diet in rheumatic fever plenty of hot water, chopped meat, poached eggs, thoroughly cooked oatmeal gruel, oranges and lemons. After the acute attack is over he varies the diet by allowing a certain amount of farinaceous food, plenty of fruit and vegetables, but he still prohibits the milk. Such a diet in rheumatic fever is certainly different from that generally followed, but he believes that he may thus prevent cardiac complications.

A patient who is rheumatic and is putting on flesh and getting fat and flabby should immediately have his food amount reduced and his diet so arranged that he will not only not increase in weight but that he will lose what is superfluous. Barr urges what is also very essential, especially if the patient has a defective heart, that the liquid be reduced to two pints a day, or even less, if this does not so deplete the tissues that some of the fat is resorbed. Patients with valvular lesions should not use tobacco at all, should take but little tea and coffee and, if there is any edema, even if the kidneys are not affected, should cut down the amount of salt in their diet.

If endocarditis has developed, the blood pressure should be kept as low as possible with a prolonged rest in bed, but as soon as the heart muscle improves the patient should be allowed to get up and gradually begin ordinary exercise, as anything that brings the blood to the muscles and dilates the surface capillaries is a relief to inflamed parts that are trying to heal permanently. While the patient is in bed after the rheumatism has ceased, massage should be daily given, to do what can be done to stimulate the muscular circulation. After the patient has permanently recovered graded exercise, mild hill climbing, etc., should be advised, but Barr does not believe in any such strenuous work for an incompetent heart as advised by Oertel. Marriage, he thinks, especially of females, should be prohibited when there is valvular disease of the heart.

As the left side of the heart has the most work to do, it is its valves that are most likely to be permanently damaged by an endocarditis, and anything that aids the plasticity of the blood, as calcium in any form, and anything that increases the blood tension, which puts the most work on the left side of the heart should be interdicted. Respiratory exercises are valuable as aiding the right side of the heart.

Cardiac disturbance caused by diphtheria and typhoid fever is more myocardial inflammation than endocardial, and in both these conditions the blood pressure is generally low enough from the disease. The heart readily dilates and becomes weak but the valves are not injured. Here lime salts as present in milk are advisable and will do good, although an injudicious amount of milk, as any other liquid in injudicious amount, is a mistake in any weakened condition of the heart. Barr thinks it quite possible that the tendency to arteriosclerosis after typhoid fever may be due to an injudicious amount of calcium administered with milk during the fever process. Although we are firm believers that about a pint of milk is sufficient per diem for a typhoid patient and do not believe in the enormous quantities of milk that have been given in this fever, it hardly seems probable that the little calcium in milk, or even the lime water that may be added to the milk, could be a cause of arteriosclerosis so often seen to follow typhoid fever.

The failure of the heart in diphtheria is partially due to disturbance of the pneumogastric nerve, and such a heart needs a tonic, not only lime but iron and possibly digitalis. The same cardiac depression as seen in diphtheria, although not as acutely serious, may show itself in influenza, where cardiac debility is prolonged and tedious. This is probably a nervous debility. Here lime is valuable; also strychnin, atropin, and perhaps digitalis.

Whooping cough injures the heart physically and is likely to injure the right side, and in whooping cough Barr advises the administration of atropin or perhaps other cardiac tonics. In all cases of whooping cough it is advisable, as long as the cough is severe, to administer digitalis regularly in such doses as meet the requirements of the child's age and condition.

In any infective endocarditis an autogenous antitoxin cannot be too soon developed, as such a complication shows that the disease is beyond almost any other control.

Barr states what is so well understood by physicians but so little understood by the laity, viz., that chronic heart lesions of all kinds are extremely amenable to treatment. This means that generally for years a patient may lead his ordinary life provided he will follow out the rules and regulations advised. Of course, sooner or later every diseased heart is beyond repair, but even in the worst instances amelioration of symptoms is generally for a long time possible. Moderate exercise, Barr urges, brings the blood to the muscles and relieves the inner tension and prevents the development of chronic disease of the organs from continued internal congestion. Excessive exercise is, of course, serious and should be interdicted because of the sudden extra work put on the heart. Large eating of any kind is inadvisable, and especially is it inadvisable to eat too much protein, as the blood loaded with insufficiently oxidized protein products can do nothing but debilitate the heart muscle and irritate the arterioles to greater

contraction and thus put more work on the heart. While at many so-called "cures" enormous amounts of water are administered to flush out the system "as though a sewer was to be cleaned," the inadvisability of loading up the circulation, especially the venous circulation, with extra amount of fluid is readily understood from a physical standpoint; it can sooner or later do nothing but harm. This of course is especiallly true if there is edema or a tendency to edema, to say nothing of general anasarca. It is so much more sensible, in conditions of internal congestion, to diminish the food, give a small amount of liquid, to gradually eliminate toxins from the system, and then to prevent more toxins from being formed.

Barr well says that he does not believe in any routine system in the treatment of chronic heart disease, but the patient should be individualized; the amount of exercise, hot baths, sweatings, food, and drink that one patient should take is not at all a criterion of what will be of benefit to the next patient.

We can but agree with him when he urges the necessity, in lack of compensation in valvular disease or in an acutely weak heart from any cause, for absolute bed rest, in fact, complete repose, not even rising to dress. It certainly is no time to consider exercise when a patient has great loss of compensation, as is shown by edemas, dyspnea, albuminuria, nosebleed, petechiæ, profuse menstruation or even uterine hemorrhage, or bleeding from the lungs. It may generally not be advisable to have the patient absolutely flat in bed during the whole day; even if he can lie on one pillow, it is advisable several times a day to have him recline on two or three or even four pillows. This is all the exercise the heart requires until it becomes stronger. A diminution of the liquid taken, and especially the withholding of salt (sodium chlorid) and the administration of just sufficient nutriment to provide for nutrition, and a daily evacuation of the bowels will, even without cardiac tonics, often cause diuresis and an absorption of the fluid extravasations. If in spite of an improvement of the arterial circulation the circulation of the veins is sluggish and the edema, especially of the extremities, is not readily removed, Barr suggests bandaging the extremities.

When the heart muscle is not much diseased, advanced arteriosclerosis is not present, and the heart is dilated, there can be no question of the value of digitalis in most instances. The arterial blood pressure should, however, be carefully noted, and if this is high digitalis is not the drug to administer. If it is low, digitalis is generally the drug to be used. The amount must depend on the tolerance of the patient and the results obtained. The dose should not be too frequent; two or three times in twenty-four hours is sufficient, as it is slowly excreted. If the blood pressure is high or there is much arteriosclerosis, or if the lesion is an aortic lesion, many times the vasodilators are the drugs most efficient. Sometimes digitalis causes digestive disturbances sufficient to prohibit its use, and if digestive disturbances are not in evidence it may cause headache; and yet the blood pressure may be so low as to contraindicate the use of vasodilators. In such apparently hopeless cases which are often accompanied by pulmonary congestion from failure of the right ventricle, often accompanied by the expectoration of bloody sputum, sometimes an actual venous hemoptysis, no treatment is as valuable as the so-called hot air treatment or "body bake."

While repeated baths are almost always advisable in heart disease, and while the Turkish bath will often cause sufficient elimination to improve the circulation, it can do harm, but the body bake, with the head exposed to the fresh, clean air, and the peripheral circulation of the body dilated and profuse perspiration caused, all under careful supervision of the pulse by an expert, will relieve internal congestion, reestablish and equalize the circulation, and cause a return of compensation when all other means have failed. Also, in conditions of failing heart due to arteriosclerosis no amount of dilators or other treatments will reestablish the circulation and give a prolonged amelioration of symptoms and apparently perfect health as will the body bake. The blood pressure will be reduced by this means and remain reduced for months under proper simple regime, after it is once brought down by the body bake. Such baking should not be too frequent, possibly every other day for once or twice, then once in five days or once a week, combined with at first rest in bed, then gradual convalescence, and then graded exercise.

If a patient, for any reason, must remain long in bed, massage must be done daily to keep the muscles in proper condition, to keep the circulation in the muscles normal and to relieve the internal congestion.

The expectation of forced diuresis alone doing much good in cardiac failure with anasarca is generally without justification. Under the management suggested albuminuria, which is caused by the chronic congestion of the kidneys from a bad heart, is relieved, and as soon as this congestion is lessened an increased output or urine takes place without a diuretic.

Barr urges the danger in anasarca from failing heart, even with almost anuria, of causing profuse watery evacuation of the bowels with any cathartic. Many a death is thus caused by the depletion and weakening and the terribly low blood pressure caused by salines.

Any bath treatment that equalizes the circulation and brings the blood to the surface and relieves internal congestion, or stimulates sweating and causes increased capillary circulation, whether the carbonic acid bath, the Nauheim bath, or any massage, will almost always aid in improving the circulation in heart disease.

It would prolong this article too much to discuss the relative values and relative indications for the cardiac tonics and stimulants other than digitalis, or to discuss the various methods of producing dilatation, or the best method of treating angina pectoris and cardiac pain and irregular and intermittent heart action, but it should be urged that alcohol is not a real cardiac stimulant; that tobacco always weakens the heart muscle; that any excess of lime is contraindicated in arteriosclerosis and when there is an increased coagulability of the blood or a tendency to plastic exudates.

Ethics.—Standards of ethical conduct—that is, conduct which not only extends to the development of individual character but also to that of the well-being of the race—have undergone considerable evolution, the most potent single influence which has been brought to bear on them being Christianity. "An eye for an eye and a tooth for a tooth" of the Judiac law, is supplanted by the offering of the other cheek to the smiter, of the Christian dispensation. Taking the world as a whole, even to-day, external standards vary enormously with the degree and kind of civilization—and its lack—with the religion and organization of society, the physical peculiarities of a country, the density of population, means of communication and a thousand other things.—F. B. Shattuck, in *Cleveland Medical Journal.*

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CHOLERA AND CIVILIZATION

The reappearance of cholera in Europe raises again the question whether the twentieth century, like the nineteenth, is to witness pandemics of this disease sweeping over Western Europe and even extending at times into the United States and Canada. Fortunately we now possess very definite information concerning the modes of spread and usual vehicles of infection of this once greatly dreaded malady. It is, for example, an incontrovertibly established fact that a sewage-contaminated water supply is responsible in practically all cases for the epidemic prevalence of cholera. Scattered cases of the disease may occur in a city with a pure water supply, but no general and widespread infection need be feared so long as the water supply remains uncontaminated.

The sudden outbreak of cholera which occurred in Hamburg in 1892, and which attacked about 17,000 persons and carried off 8,600, might well have been predicted by sanitarians on the basis of the known facts regarding the entrance of sewage into the river water from which Hamburg obtained its supply and the significant prevalence of typhoid fever in that city. So too at the present day, if cholera should become at all widely distributed in this country, we could predict with a high degree of certainty those sections of the country and even the communities that would suffer most severely. Cholera in even greater proportion than typhoid fever is a water-borne disease.

Almost any article of food or drink may occasionally serve as a medium for conveying typhoid infection. Of course such substances as milk, vegetables and fruits consumed without cooking are to be regarded as particularly dangerous, but any food handled or kept under uncleanly conditions may be the means of introducing cholera vibrios into the intestine. Flies fed with cholera-infected material have been found to contain the vibrios in their intestines for as long as fourteen days.

"Cholera carriers" have been shown to exist in the persons of healthy individuals resident in districts where the disease prevails. There seems no doubt that cholera spreads from locality to locality not by bales of merchandise, but by the carriage of the specific germ in the body of man himself. Dunbar has stated that in the Hamburg epidemic of 1892-93, he was able to detect the cholera vibrio in no fewer than twenty-eight persons who were entirely healthy and had never manifested any symptom of cholera or had suffered the slightest attack of diarrhea.

The immediate practical deduction from these facts seems plain. It is more rational to expend our efforts in improving general sanitary conditions in this country than to establish a shotgun quarantine and attempt—probably in vain—to prevent any person harboring cholera vibrios from landing on our shores. Attention to the ordinary demands of civilization, the elimination of sewage from our water supplies, the insistence on clean milk and bread, the banishment of the common drinking-cup and the roller-towel, the extermination of the house-fly and other vermin, the observance of a decent degree of cleanliness in the streets and in the house—such measures will go far to avoid the danger of cholera epidemics now and henceforward. More than once has it been shown that in default of an efficient system of national and municipal sanitation, quarantine is but a broken reed. The British sanitary system makes a clear recognition of this principle. Nearly twenty years ago a distinguished British official wrote:

"For England the abandonment of quarantine has been an almost unmixed good. The knowledge that no pretense would be made to keep out all chance of cholera in this country, has done more perhaps than anything else to induce our sanitary authorities to spend their money on great works of sanitation and on such improved sanitary administration as is likely to prevent the spread of any imported disease of the type of cholera. Millions have been spent to this end; but, on the other hand, hundreds of thousands of lives have been saved. Even if cholera should once more succeed in passing the barrier of our ports and, diffusing itself inland, cause a heavy mortality, we should still be enormously the gainers in point of human life by the system which we have so deliberately adopted, but there is no doubt that our system is rather calculated to prevent than to lead to such a contingency."

Local isolation and general sanitation are the most effective defenses against cholera, as against typhoid fever and many other infections. To use a simile of Pettenkofer's, insanitary conditions may be looked on as a kind of powder for which cholera is a spark; it is a much wiser procedure to see to it that we allow no such inflammable powder to accumulate than to spend our efforts in frantic attempts at beating off the spark.

SEWAGE DISPOSAL BY DILUTION

It is often considered a procedure far from ideal to discharge sewage without treatment into the nearest large body of water, whether ocean, lake, or river. Yet many municipalities are so situated that this is the least expensive course open to them, and it is not surprising that hard-pressed city administrators find the least costly way the most tempting. On the public health side this method of sewage disposal always raises two questions: first, whether the degree of dilution proposed is sufficient to avoid offensive decomposition, and second, and more important, whether the procedure involves contamination of the city's own water-supply, or of that of any other municipality. Where either of these conditions can be shown to exist exception must be taken to this mode of sewage disposal.

In this country, many cities situated on the Great Lakes have long made a practice of discharging their sewage directly into the lake water at the most convenient point. Unfortunately these cities have also drawn their drinking supply from the same body of water within a few miles, or even a few hundred yards, from the sewage outfall. The result has been that, as is well-known, in times past several of these cities suffered severely from water-borne disease. Buffalo, Cleveland, Chicago, Toronto, Milwaukee, and other cities, have all at various times had occasion to deplore the close connection between water-supply and sewage disposal. It may therefore come as something of a surprise to find leading sanitary experts, including the chief engineers of the state boards of health of Massachusetts, New York and Pennsylvania, giving their sanction to a proposal to discharge the raw sewage of Rochester, N. Y. (population about 200,000) into Lake Ontario. The local features that have led to such recommendations are worth noting as an illustration of the fact that under proper conditions sewage disposal by dilution may be legitimately practiced.[1]

At present the Rochester sewage passes into the small Genesee River, which flows into Lake Ontario and at certain seasons is greatly overburdened, so that a serious nuisance is caused. The new plan proposes to discharge the sewage, after a slight period of sedimentation followed by screening, directly into Lake Ontario in water 55 feet deep, 7,000 feet from shore. The proposed outlet is about three miles from the Rochester and Ontario Water Works, but according to the opinion of the sanitary engineers, the process of filtration to which the water is subjected renders danger of infection very unlikely and in no case greater than at present. It is also the belief of the experts that the likelihood of contamination of the Oswego water-supply, 50 miles distant, is too remote for practical consideration. The degree of dilution outlined under this project is sufficient to avoid any possibility of a nuisance.

Altogether the reports of the experts in the Rochester case constitute a strong endorsement of the principle of sewage disposal by dilution. No water-supply is threatened, a present nuisance is abated, and no fresh nuisance created. Given suitable conditions, such as seem to exist at Rochester, it must be admitted that sewage purification by dilution may be a safe and legitimate solution of the sewage problem.

1. Engineering News, Aug. 11, 1910.

ORGANIC ARSENIC PREPARATIONS—EHRLICH'S 606

The prominence into which organic arsenic compounds have again been brought by their application to the treatment of protozoan diseases, such as sleeping sickness, and, more recently, syphilis, makes it seem desirable to call attention to a few fundamental facts which are apt to be overlooked. Merely to warn[1] against the ready acceptance of optimistic preliminary reports in a general way is not sufficient; it is better to consider the principles underlying the action of these substances and to base our warning on well-known difficulties.

The action of organic arsenic compounds is fundamentally an arsenic action and depends on the destruction of the organic radicle, with the liberation of the inorganic portion. Against this view may be cited the clinical observation that the use of inorganic arsenic preparations is not attended with the same success as can be obtained with the more special preparations, such as atoxyl, or more recently "606." This difficulty can be easily understood, however, when we consider that the efficiency of such compounds depends on their specific affinity for the protozoon, in other words their ability to enter the protozoon in preference to the tissues of the host. After they enter the protozoon their action is essentially an arsenic action, but their specificity of distribution between the invading organism and the host depends on the structure of their organic radicle. In the course of a search for such specific differences a vast number of preparations have to be examined, as the above number, "606," would indeed suggest.

The dangers and the difficulties in the practical application of these compounds, which recent work has disclosed, are due to two facts, careful attention to which is necessary on the part of everyone wishing to form a fair judgment. In the first place Ehrlich has found in treating trypanosome infections, that a certain proportion of the protozoan are tolerant to the arsenic preparation. The well-known difficulty—the incomplete destruction of the invading organisms—encountered in treating a case of mixed infection in malaria is here rendered more difficult by the fact that even under the most favorable conditions it is impossible to destroy completely all the invading organisms. This fundamental difficulty has not yet been overcome and is very likely to apply to the similar case of the spirochete of syphilis.

1. THE JOURNAL, Aug. 13, 1910, p. 601.

From this difficulty arises the second complication, the danger of giving these substances in overdose. This danger is particularly prominent with organic arsenic preparations, on account of the large amounts which can be given before the arsenic action is apparent, and on account of the great difficulty in making an early diagnosis of arsenic poisoning. When we consider the difficulties that have been encountered in the recognition of such well-known cases of arsenic poisoning as the Manchester epidemic, poisoning by ferrosilicon,[2] and a number of criminal cases, obscure until chemical analysis revealed the cause, the very great danger likely to arise from this source will be apparent. Some who are familiar through long use with Fowler's solution may be inclined to minimize this danger. We must remember, however, that Fowler's solution is very soluble and easily eliminated while the very nature of organic arsenic compounds depends on their ability to show more or less of a cumulative action. This cumulative action may lead to the well-known symptoms of chronic arsenic poisoning, among which peripheral neuritis accompanied by blindness is perhaps the most apparent, although a great many more obscure complications due to injury to the capillary walls are also apt to occur. In the use of atoxyl in sleeping sickness, several cases of blindness have been reported.

This criticism is not intended to be destructive but rather constructive. If arsenic compounds are destined to give us the long-sought specific for syphilis, the final decision as to its usefulness must depend on the results of clinical experience. During the experimental period, however, attention should be directed to the two principal points here outlined: the completeness of the destruction of the invading organism, and the careful control (preferably by quantitative estimations) of the arsenic eliminated during treatment to avoid the danger of cumulative action. Professor Ehrlich's caution in guarding against the general use of his preparation cannot be too highly commended.

Current Comment

OSTEOPATHS CANNOT SIGN DEATH CERTIFICATES

A New York court has decided that local boards of health cannot recognize death certificates issued by osteopaths until a coroner has made an investigation. The decision sustains the position taken by the corporation counsel of the City of New York. In rendering the decision, Judge Putnam said, "While the state has wisely allowed the practice of osteopathy, it does not follow that it thereby holds one without any practice in surgery or experience in prescribing drugs as fully qualified to certify the cause of death...The sanitary code is discriminatory but the discrimination is not personal or arbitrary. It is based on a limitation which the osteopath may be said to make for himself and deprives him of no right he ought to exercise consistent with the public safety." The essential point in the decision is Judge Putnam's statement that the limitations of osteopathy have been made by the osteopath. Whenever an osteopathic bill has been before a state legislature, the osteopaths themselves have been most vehement in their declaration that they were not physicians and that osteopathy was not the practice of medicine, consequently they could not be made amenable to medical practice acts. Yet as soon as the osteopathic bill is passed, they demand the privileges of legally qualified physicians. The personal practice of osteopathy is comparatively unimportant. The recognition of osteopathy, scientifically and economically, is a most important matter. Osteopaths, as a class, must accept one of the horns of the dilemma. If they are physicians practicing medicine and surgery, then they are amenable to medical practice acts and there is no justification for allowing them to practice medicine and surgery on a basis of qualification lower than that exacted of other practitioners. If they are not physicians and if they are not practicing medicine, then they cannot expect to exercise the functions of legally qualified physicians. While the decision referred to above is not final, the ruling is so clearly in line with common sense and logic that it will undoubtedly stand.

2. THE JOURNAL, Aug. 27, 1910, p. 781.

AMERICANIZING OF FOREIGN NAMES

The Prussian Minister for Commerce and Trade urges that a German becoming a citizen of the United States should retain his original name rather than Americanize it. While this recommendation doubtless was inspired by a commendable spirit of patriotism, it is also to be endorsed on practical grounds. The changing of names indulged in by many of our foreign-born citizens, as well as by their children, has a confusing effect in tracing lines of descent, family connections, relationships, etc., especially on public records and documents. The matter is of medical interest because it frequently happens that a medical student of foreign birth or parentage graduates from a medical college under one name, receives his state license under another, and in a few years is practicing under a third designation. The names may either be variations of the original or in some cases entirely different, with much confusion in personal identity as a result.

PRESIDENT TAFT ON PUBLIC HEALTH LEGISLATION

The efforts of certain interested individuals to make it appear that the President has withdrawn from his position on advanced health legislation have been nullified by the latest utterance of Mr. Taft. In a letter carefully prepared for publication in the Republican Campaign Handbook the president enumerates the measures to which the Republican party stands committed. The letter may be regarded as representing not only the personal views of the President but the position of the party also. "As to future legislation," the President says, "a number of promises remain to

be kept." After alluding to important commercial and economic measures, he continues, "There is also the promise of the Republican platform to make better provision for securing the health of the nation. The most tangible and useful form that this can take would be the establishment of a National Bureau of Health, to include all the health agencies of the government now distributed in different departments." The public health plank of the Democratic platform of 1908 was even stronger than the declaration of the Republican platform. The proposed federal health legislation is being supported without regard to political affiliation. The question is in no sense a partisan one. It is simply a problem of method—a problem of the best way to unite and strengthen existing health agencies of the government. Mr. Taft's recognition of the obligations of his party and of his administration with regard to health legislation will go far toward making possible the passage of a satisfactory law in the near future.

BUDDING ELOQUENCE

In a periodical published by a medical students' fraternity we find this gem: "If men and women will awaken from their sleep of apathy, throw aside the mantle of inertia, wash from their eyes self-centered indifference to needed reforms, and try to get nearer to that utopian time when man will really love his fellowman and will strive to do unto others as he would have others do unto him, then will the child be really given a fair chance. With such a resolve for the future, with enlightenment, justice and liberality for guides it can be accomplished, and a race of people of such moral, mental and physical excellence be developed as to render Earth nigh akin to Heaven." Note the prodigal extravagance of the first sentence, in which the author feels able to afford four figures of speech. And yet again, note the beautiful progress of the figures: to awaken from sleep; to throw aside the *robe de nuit;* to perform one's morning ablutions—what a realistic touch! Surely we have here a coming medical poet.

YELLOW FEVER

In the United States and Cuba, at least, yellow fever has become almost a historical disease. Not so much can be said, however, for the Central and South American countries. The gulf states, realizing this, and anticipating a large increase in commerce with the southern countries with the completion of the Panama canal, with commendable caution are keeping in view the possibility of a return of this scourge to their cities and towns. The *Gulf States Journal of Medicine and Surgery* in commenting on a paper by Dr. Charles A. Mohr, on the symptomatology of yellow fever, which it publishes, urges physicians practicing in the gulf cities to familiarize themselves with the symptoms of this disease and to make a searching examination of every case of fever occurring from August to November so that the disease may not gain a foothold. It suggests that while the U. S. Public Health and Marine-Hospital Service is performing an invaluable service in preventing the introduction of the fever into the South, the gulf cities are not doing their full duty in destroying the stegomyia and their breeding-places so that yellow fever could not spread if it once gained entrance. It is the "swat" of the mosquito in time that saves nine lives.

EHRLICH'S SYPHILIS REMEDY NOT YET ON THE MARKET

In view of the far-reaching consequences of that dread disease, syphilis, and especially in view of the remarkable success which is reported to have attended its treatment by Ehrlich's arsenic preparation, it was only natural that the announcement of this remedy should have created intense interest and a demand for the substance. We have heard of a number of men starting for Europe, to endeavor to see Ehrlich and to secure some of the remedy. Hundreds of others doubtless have written him. One letter was sent in care of THE JOURNAL to be forwarded, because the writer had only the word "Frankfort" for Ehrlich's address and questioned whether this meant "Frankfort, Ky.," or some other place. Without doubt, Professor Ehrlich has received more letters than he is at all able to answer. It is fitting therefore, for us to warn the profession in the words of a cablegram just received from one of THE JOURNAL'S foreign representatives:

"Ehrlich says doctors stay home, don't write; 606 market November."

In other words, the remedy will be ready for distribution in November, and at present, physicians will find it useless as well as annoying, both to themselves and to Professor Ehrlich, to write to him or to go to Europe to see him. One who saw a similar concourse waiting on Koch after his great announcement, described it as such an embarrassing throng that even eminent men had difficulty in securing an audience. Practically everyone there had wasted his time in going. The warning is a timely one. In the interim, THE JOURNAL will continue to keep its readers fully informed on the subject.

HOW THE RELIGIOUS PRESS ASSISTS IN HUMBUGGING THE PUBLIC

"Vitæ-Ore,"[1] according to its exploiters, is the "dried residue of the greatest curative spring in the world"; according to Bulletin 69 of the North Dakota Agricultural College Experiment Station, it is a mixture of Monsel's and Epsom salts. The marvelous (commercial) possibilities of this preparation—it sells at a dollar a package—were "discovered" by one Theophilus Noel, who is said to have at first peddled the nostrum in order to get a start. Soon, an advertising campaign was instituted in religious papers and was kept up with great persistence. As business increased, a British depôt was opened in London and the clergy of that

1. See also THE JOURNAL A. M. A., Feb. 2, and 16, 1907; also Propaganda for Reform, page 208.

country received letters from the concern in which the personality of Christ was used to boom the sale of the nostrum. Evidently this combination of piety and quackery has proved profitable. The newspapers of a few days ago contained an item regarding the divorce suit brought against Theophilus Noel—referred to as "the millionaire 'patent-medicine' manufacturer"—in which the wife testified that it would be impossible for her to live on less than $500 a month at Noel Heights, the California residence of the nostrum vender. She said that it would cost that much to keep up the premises and pay the servants. With the domestic affairs of this enterprising promoter of modified Epsom salts our readers are not interested, but the testimony quoted is striking evidence of the value of well-advertised piety as a "patent-medicine" asset. To the religious press of America, more than to any other one factor, Mr. Noel owes his financial success; to such satisfaction as this particular field of journalism may derive from this fact, it is more than welcome. Fortunately religious papers are awakening to the iniquity of the whole wretched "patent medicine" business and the advertising field for such preparations as Vitæ-Ore is becoming daily more restricted.

ELECTIVE MEDIA FOR CHOLERA VIBRIOS

The appearance of cholera in Western Europe adds interest to the attempt to discover a culture medium which shall facilitate the isolation of the cholera vibrio. An attempt of this sort was made a short time ago by Dieudonné,[1] who took advantage of the well-known tolerance of the vibrio for alkali. The blood-alkali-agar prepared by him has been tested with favorable results by Huntermüller[2] and others. Still more recently Neufeld and Woithe[3] have published results of work with the medium and have somewhat extended Dieudonné's observations. These latter authors find that ordinary agar rendered strongly alkaline has the same effect in suppressing *B. coli* and in producing a characteristic cholera vibrio colony that Dieudonné's medium is credited with. Indeed they declare that simple alkalization of peptone water with potassium or sodium hydrate (0.7 to 0.8 per cent. normal solution) affords a medium that possesses some advantages over the alkaline agar.

Medical News

GEORGIA

Resolutions Regarding Dr. Calhoun.—A committee of the board of trustees and the faculty of the Atlanta College of Physicians and Surgeons, at a joint meeting held August 29, adopted resolutions recounting the distinguished services of the late Dr. Abner Wellborn Calhoun, deploring the loss of his wise counsel, and deprivation by his death of his contributions for the public welfare, and setting apart a page in the records of the institution to be inscribed to his memory.

ILLINOIS

Personal.—Dr. Edward S. Winbigler, Alexis, is reported to be seriously ill at his home with septicemia.——Dr. Hiram T. Hardy, Kaneville, was operated on in Wesley Hospital, Chicago, August 27, for the removal of gall-stones.

1. Centralbl. f. Bakt., I, p. 107.
2. Centralbl. f. Bakt., I, 1909, I, p. 109.
3. Arb. a. d. k. Gsndhtsamte, 1910, xxxiii, p. 605.

Tuberculosis Hospital in Evanston.—The Chicago Fresh Air Hospital, recently organized with Dr. Albert S. Ochsner as vice-president and Dr. Ethan A. Gray as medical superintendent, has secured a farm of 20 acres on the boundary between Chicago and Evanston with accommodations at present for 23 patients.

Notes About Hospitals.—The plans and specifications for the new hospital building for the Peoria Deaconess' Hospital are ready. The building will cost it is estimated about $45,000. It will be of stone, 5 stories in height and fireproof and will adjoin the present hospital building.——The hospital for the new Naval Training Station, North Chicago, which will be finished next month, is to be so arranged as to minimize noise. The nurse and emergency calls are to be made by light signals instead of buzzers or bells.

Chicago

Personal.—Dr. B. K. Shimonek has been elected director for the Central Division of the North American Esperanto Association.——Dr. and Mrs. Thos. D. Palmer have returned from Europe.

College Merger.—The American Medical Missionary College of Battle Creek and Chicago has been merged with the College of Physicians and Surgeons, Chicago, the Medical Department of the University of Illinois.

Hospital Notes.—The work of erection of the Iroquois Memorial Emergency Hospital at 87 Market Street, has been commenced, and it is expected that the relief station will be ready to receive patients about Jan. 1, 1911. The cost of the building is estimated at $30,000. On its completion it will be turned over to the city and will be operated by the Department of Health.——The Francis E. Willard Memorial Hospital has purchased a lot 48 by 125 feet on Lincoln Street, adjoining the present hospital. The lot is improved with a two-flat building which will be remodeled and used for the nurses, and will accommodate 30. It is to be known as the Hobbs Home in honor of Mrs. J. B. Hobbs, the recording secretary. · Plans for the Nelson Morris Memorial Institute of Medical Research, opposite the Michael Reese Hospital, have been completed and the work will begin in a few days. The building will be 100 by 96 feet, and four stories in height.

LOUISIANA

Hospital Buys Sanitarium.—The Presbyterian Hospital of New Orleans has acquired possession of the New Orleans Sanitarium for about $180,000. It is proposed gradually to develop a charity department of the sanitarium under the charge of the hospital authorities.

Health Board Laboratory.—The State Board of Health will move from the Perrine Building to the new Court House Building, New Orleans, early next month. A new laboratory is being equipped in the new quarters, which will be ready for operation as soon as the change is made.

Personal.—Dr. A. Penn Crain, Shreveport, has been appointed bacteriologist and chemist of the State Board of Health, vice Dr. Jacob M. Bodenheimer.——Drs. Charles J. Landfried, Homer Dupuy, Lieven D. DePoorter, Allan A. Kennedy, John P. Leake, and A. Benjamin Gaudet have resigned from the staff of the New Orleans Eye, Ear, Nose and Throat Hospital.

MARYLAND

State Medical Society to Meet.—The Medical and Chirurgical Faculty of Maryland will hold its semi-annual meeting, September 12 to 14, at Annapolis, where extensive preparations have been made for entertainment. On the second day a symposium will be held on the administration of the State Board of Health with addresses by the various heads of the departments of that body. On the third day a joint meeting will be held with the Maryland Psychiatric Society.

Baltimore

New Building for Hospital.—The new ward building of the Bay View Hospital, which has cost $35,000, is reported to be complete but will not be occupied until the water, heat and power plant, contracts for which have just been made, is finished.

Hospital Ship.—Dr. R. Martin Bruns has advocated a hospital ship for babies on the plan of the Boston and New York floating hospitals. He claims that with $60,000 he can equip a ship and care for patients for two years, provid-

ing for 100 day patients and their mothers and 50 permanent patients.

Personal.—Dr. E. H. Brannon, who has had charge of a railway field hospital on the upper Amazon for two years, has returned to Baltimore.——Dr. Thomas W. Keown sailed August 31 for Ireland.——Dr. John T. King has returned from Europe.——Dr. Charles A. Fetterhoff has been appointed resident physician at St. Luke's Hospital, vice Dr. Samuel E. Edmunds, resigned.——Dr. Herbert H. Haynes, demonstrator in anatomy at the College of Physicians and Surgeons, has resigned and will practice in Clarksburg, W. Va.

MISSOURI

Tuberculosis Tour Ends.—The tuberculosis car, sent through the southwestern portion of the state by the State Society for the Relief and Control of Tuberculosis, has returned after a trip of 1,265 miles. A second trip is contemplated in September.

Aid for Sanatorium.—W. C. Root, Kansas City, consulting architect for the Missouri State Sanatorium for Incipient Tuberculosis, Mount Vernon, after careful investigation, says that the work in general has been well done at a reasonable cost, and advises the expenditure of $35,000 for a new infirmary building.

To Save Sight of Babies.—Social settlement workers and physicians have organized the State Sight-Saving Society—the Missouri Association for the Prevention of Blindness. Dr. John Green, Jr., St. Louis, is chairman, and Drs. Clarence Loeb, Frederick J. Taussig, and Albert H. Hamell, all of St. Louis, represent the State Board of Health on the directorate. The object of the association is the awakening of the public mind to the enormous amount of preventable blindness throughout the state.

Personal.—Governor Hadley has been elected president of the Missouri Association for the Prevention and Control of Tuberculosis.——Dr. William W. Graves, St. Louis, has sailed for Europe.——Dr. Francis L. Reder, St. Louis, will sail for France this month to attend the twenty-third French Congress of Surgeons.——Dr. and Mrs. Francis R. Anthony, Maryville, sailed for Europe August 15.——Dr. Hasbrouck DeLamater has been appointed assistant to the health commissioner of Kansas City.——Dr. Elmore O. Smith, Kansas City, is said to have been fined $100 on the charge of maintaining a private hospital for treatment of cancer without permission of the Hospital and Health Board.

NEBRASKA

Personal.—Dr. Warren W. Thompson, West Point, has been appointed assistant physician to the State Hospital for the Incurable Insane, Hastings.——Dr. William F. Callfas, Omaha, has been appointed chief of the department of anatomy at Barnes University, St. Louis.——Dr. Samuel C. Beach, McCook, has been appointed a member of the board of health of Red Willow county.

State Board of Control Favored.—The state political conventions have inserted planks in their platforms endorsing the creation of a state board of control for charitable, penal and reformatory institutions. At the coming session of the legislature, an act incorporating the best features of the Iowa and Illinois laws will be introduced as a constitutional amendment. This movement has been endorsed by the county societies, the state medical society, and the Nebraska Association for Charities and Corrections.

NEW JERSEY

Cocain Dealers Sentenced.—Harry Simmons, Camden, and his wife are said to have been found guilty of the illegal sale of cocain and opium, and to have been sentenced to two years' imprisonment.

Personal.—Dr. Samuel D. Bennett has been appointed medical inspector of Millville public schools, and Dr. Duncan W. Blake, Jr. of the Gloucester City public schools.——Dr. Gustave A. Schoening and family, Trenton, have sailed for Europe.

Tuberculosis Camp for Union County.—A committee of the board of freeholders of Plainfield have recommended an administration building and four leantos to be built on the site of fifty acres at a cost of not to exceed $50,000, to be raised by the issue of bonds.

NEW YORK

Personal.—The will of the late Mrs. Sarah Flower contains a bequest of $50,000 for Dr. Murray M. Adams, Watertown.——Dr. George A. Leitner of Piermont, Dr. William Meddaugh Dunning, and Dr. and Mrs. A. L. Wolbarst, New York City, have sailed for Europe.

New York City

To Enlarge Hospital.—Plans have been filed for converting the four-story private dwelling adjoining the Hospital for Deformities and Joint Diseases, New York City, into an office and dispensary, and a nurses' dormitory for the institution.

Vacancy in Dispensary.—Washington Heights Hospital Dispensary, 554 W. 165th Street, announces a vacancy in the medical and surgical department, Tuesdays, Thursdays, and Saturdays, 2 to 4 p. m. Applications should be made to Dr. Louis Neuwelt, 2424 Seventh Avenue.

Proposed Colony for Lepers.—It is understood that the Board of Health intends establishing isolation quarters for lepers on North Brother Island. There are at present four men living in a small house on Blackwell's Island who are suffering from the disease in its last stages.

Want Straus Milk Stations.—The New York Milk Committee has sent out a statement expressing regret at the announced intention of Nathan Straus to close his milk depots. The commissioner of health has also spoken very strongly on the subject. He says: "To see these milk stations shut down would be to witness a great public calamity."

Avoidance of Accidents.—The large number of street car accidents in New York City has led to the printing on the back of transfers the following warning: "Never leave a street car until it has come to a full stop. In this way you will do your share for the betterment of the service and the lessening of accidents. Most street-car accidents are due to the non-observance of this simple rule. May we look for your cooperation in this regard?"

Law Breakers.—Forty bottles of cocain are said to have been found on a man arrested in front of the police headquarters, August 22. This is said to represent the supply of cocain for Chinatown for one day. The original source of the illegal supply has not yet been traced.——William Bechtold, a former nurse in the U. S. P. H. and M.-H. Service, Stapleton, is said to have been convicted of the practice of medicine without a license, August 24, and to have been sentenced to imprisonment in Richmond County jail for thirty days.

Academy to Discuss Animal Experimentation.—The New York Academy of Medicine has purchased property at 10 W. 44th Street, and 15 W. 43rd Street, either for the purpose of remodeling the present building, or for the erection of a new building. The anniversary meeting of the academy will be held November 17, and will be devoted to animal experimentation in medicine. Addresses will be delivered by Dr. William W. Keen, Philadelphia, on "The Influence of Antivivisection on the Character of its Advocates;" by Dr. William H. Welch, Baltimore, on "The Objections to Proposals of Further Legislation to Regulate Animal Experimentation;" by Dr. W. B. Cannon, Harvard Medical School, on "The Character of Antivivisection Literature."

Buffalo

Personal.—Dr. Emil S. Tobie has been appointed a member of the board of trustees of the J. N. Adams Memorial Hospital for Incipient Tuberculosis.——Dr. David E. Wheeler arrived in Athabasca Landing, Alberta, August 30, after a sojourn of several months in the Keewatin country of the north.

Hospital for Incipient Tuberculosis.—Bids for the J. N. Adams Memorial Hospital for Incipient Tuberculosis, the new municipal hospital to be built at Perrysburg, were recently submitted at $158,415. The trustees have decided to readvertise and double the capacity of the institution. The sum of $200,000 is now available for construction and equipment. The site of the hospital was presented to the city by former mayor J. N. Adams. The hospital will accommodate about 300 patients.

Scarlet Fever.—Four new cases of scarlet fever have developed at Cradle Beach, the resort of the tenement children

of Buffalo, about 250 children are at this camp and conditions are believed to be so serious that the State Health Department has sent Dr. Edward Clark to investigate them. For more than two years the Buffalo Academy of Medicine and the county medical society have called the attention of the council repeatedly to the serious condition of the infectious disease situation in Buffalo, due to the fact that the facilities for the segregation of this class of patients are limited and insufficient.

NORTH CAROLINA

Visit State Tuberculosis Institutions.—The superintendent of the State Hospital for Tuberculosis, with Dr. M. Eugene Street, Glendon, R. Gordon, Greensboro, James E. Brooks, Montrose, and Richard H. Brooks, Raleigh, a committee of the directors of the institutions, are making a tour of the state tuberculosis institutions of the east.

Personal.—Dr. Thomas C. Quickel, Stanley, has located in Gastonia, where he will devote his attention to diseases of the eye, ear and throat.——Dr. Wingate Johnson, Thomasville, has located in Winston.——Dr. Alfred A. Kent, Lenoir, has received the unanimous nomination of the Democratic party of Caldwell County for representative to the legislature, and this nomination is said to be equivalent to election.

PENNSYLVANIA

Infantile Paralysis Situation.—Twenty cases of infantile paralysis were reported to the State Health Department, September 3. The disease now prevails in 41 counties, the total number of cases being at present 469.

Boards of Health Required.—It is stated that the State Commissioner of Health will send notice to all boroughs in Pennsylvania which have not organized boards of health and provided appropriation for combating disease, that they must do so without delay. This action of the commissioner will affect boroughs in every county. In case of failure to comply with this decree, the commissioner will invoke the aid of the attorney-general either by mandamus proceedings to compel the organization of board or action for revocation of charter.

Philadelphia

Personal.—Dr. Caroline M. Purnell sailed for Europe August 31.——Dr. John J. Moylan returned from Europe August 28.——Dr. Edward H. Jerecki, chief of staff at the Jewish Hospital, was badly shaken up and bruised, in a collision between his carriage and a trolley car, August 29.

Resignations from the University Faculty.—Dr. Harold B. Wood, assistant demonstrator of normal histology at the University of Pennsylvania, has resigned to become state bacteriologist and chief of the laboratories of the Mississippi State Board of Health. He will be stationed at Jackson.—— Dr. Horatio C. Wood, Jr., assistant professor of pharmacology in the university, has resigned.

Special Train for State Meeting.—For those desiring to attend the annual meeting of the State Medical Society at Pittsburg, October 3 to 6, a special train will leave Broad Street Station at 10:30, Monday morning, October 3, stopping at Harrisburg, Tyrone, Altoona, Johnstown, and East Liberty. A uniform rate of two cents a mile will be charged on this train, Pullman service being extra. The train will run as the second section of the Chicago Express. Accommodation can be had by writing Dr. Albert M. Eaton, 2017 N. 13th Street, Philadelphia, Chairman of the Committee on Transportation, enclosing a stamped, directed return envelope.

Railroad Blamed for Poor Milk.—A bill of complaint against the Philadelphia and Reading Railway, in which the transportation company is held responsible for the alleged inferior grade of milk that has been supplied in certain sections of the city, was filed in Harrisburg, September 3. It is expected that the state railroad commissioners will institute a searching investigation into the manner in which railroads transport milk. The specific charge is that it required the defendant company three hours to convey the milk a distance of 35 miles in common baggage cars. Twenty thousand quarts of milk are supplied in this city daily by the Reading system.

Dedication of Consumptive Institute.—The dedication exercises of the Jewish Consumptive Institute, 406 Wharton Street, will continue for a week beginning September 11. All the Jewish organizations will be represented and addresses will be made by the following: Dr. S. Solis-Cohen, Rabbi A. H. Erschler, Rabbi B. L. Levinthal, and Dr. M. Barbour. Dr. M. Staller is chairman of the dedication committee. In the new institution, no patients will be housed in the building, the advanced cases being turned over to sanatoriums at the expense of the institution. A dispensary will be established for incipient cases and for the distribution of milk and eggs. A large sun parlor has been constructed in the yard.

GENERAL NEWS

Electrotherapeutists to Meet.—The American Electrotherapeutic Association will hold its twentieth annual meeting at Saratoga Springs, N. Y., September 13 to 15.

Measles Epidemic in South Africa.—An epidemic of measles is reported in Pretoria. Up to the present, the inhabitants of 300 houses have been infected, and in all about 1,000 cases have been reported. The schools are being closely watched but the health officials believe that the epidemic is sufficiently under control to obviate the necessity of closing them.

Cancer Vaccine Tested.—Dr. Philip K. Gilman, formerly of Oakland, Cal., professor of surgery in the Philippine Medical School and surgeon in chief of the Philippine General Hospital, Manila, announces his belief that he has discovered a vaccine which will stop the ravages of cancer. He reports apparent cure with the vaccine in twenty cases of cancer in Manila.

Pacific Coast Surgeons Meet.—The annual meeting of the Pacific Coast Association of Railway Surgeons was held in San Francisco, August 27 and 28 and the following officers were elected: President, Dr. Oliver D. Hamlin, Oakland; vice presidents, Drs. Wallace I. Terry, San Francisco, and Robert T. Legge, McCloud, Cal.; secretary, Dr. George R. Carson, San Francisco (re-elected); treasurer, Dr. Ernest M. Keys, Alameda. The association will hold its 1911 meeting in Los Angeles, the day before the meeting of the American Medical Association.

Colored Practitioners Hold Meeting.—Colored physicians, dentists and pharmacists, making up the National Medical Association, held their meeting in Washington, D. C., August 23 to 25. Hampton Institute, Hampton, Va., was named for the next meeting-place and the following officers were elected: President, Dr. Austin M. Curtis, Washington, D. C.; vice presidents, Drs. William M. Slowe, Philadelphia, and Dr. L. H. Singleton, Washington, D. C.; general secretary, Dr. J. A. Kenny of the Tuskegee Institute, Ala., and member of the executive board, Dr. John W. Jones, Winston Salem, N. C.

The Valmora Sanatorium.—The Valmora Industrial Sanatorium at Watrous, New Mexico, an institution incorporated not for profit, announces that it is ready to receive patients. The expense per week for patients sent by subscribers will be $10 and for others $12.50. Individuals desiring to enter the sanatorium should write to the office, 34 Washington Street, Chicago, for application blanks, which should be filled out by their physicians and then presented to one of the examiners of the sanatorium who will determine whether or not the case is suitable for treatment at the institution. As the chief object is to accomplish the greatest possible good at the sanatorium, patients who have not a fair chance for recovery are not accepted. The examiners in Chicago for the institution are Dr. Arthur M. Corwin, 34 Washington Street, and Dr. Edwin B. Tuteur, 103 State Street.

Coming State and National Meetings.—A large number of state and national medical societies are to meet this fall. Among them are the following which will meet in September or October:

Amer. Acad. of Ophthalm. and Oto-Laryn., Cincinnati, Sept. 19-21.
Amer. Assn. of Obstetricians and Gynecol., Syracuse, Sept. 20-22.
Amer. Roentgen Ray Association, Detroit, September 28—October 1.
American Association of Railway Surgeons, Chicago, October 19-21.
American Electro-Therapeutic Assn., Saratoga, N. Y., Sept. 13-15.
Medical Association of the Southwest, Wichita, Kan., October 11-12.
Michigan State Medical Society, Bay City, September 28-29.
Minnesota State Medical Association, Minneapolis, October 6-7.
Mississippi Valley Medical Association, Detroit, September 13-15.
Nevada State Medical Association, Lake Tahoe, Cal., Sept. 19-21.
Pennsylvania, Medical Society of State of, Pittsburg, October 3-6
Utah State Medical Association, Salt Lake City, October 3-4.
Vermont State Medical Society, St. Albans, October 13-14.
Virginia, Medical Society of, Norfolk, October 25-28.
Wyoming State Medical Society, Casper, September 27.

MANILA LETTER

(From Our Regular Correspondent)

MANILA, P. I., July 31, 1910.

Obstetric Superstitions in the Philippines

Since so widespread an interest, both professional and lay, in the very high infant mortality in Manila and in the Philippines generally has been aroused, it is not surprising that there should follow an inquiry into the status of the practice of obstetrics and midwifery in the Islands. Such a study has been made by a number of Manila physicians interested in obstetrics. As might be expected, some interesting facts, situations and customs were encountered.

Seven articles dealing with different phases of obstetrics and gynecology are published in the *Bulletin of the Manila Medical Society* for June, 1910. It is rather surprising to learn that in both surgery and obstetrics it is particularly easy to avoid infection. The explanation of this is the rarity of the virulent streptococci. This organism is seldom encountered in laboratory work, in the morgues or in clinical work. "Streptococcic septicemia, cellulitis, erysipelas, scarlet fever and even streptococcic sore throat are extremely rare conditions in the Philippine Islands and streptococcic metritis and peritonitis following childbirth have not been encountered in autopsy work in Manila." Yet in spite of these conditions the death-rate among infants and of mothers during or following labor is very high.

In this connection it must be remembered that rational medicine is only a recent institution in the Philippines. Until the early seventies the practice of medicine was almost entirely in the hands of the quack and until very recent years the same has held true with regard to obstetrics, even among the majority of the more wealthy families. It is said that "to the Filipina woman, like the Chinese woman, personal exposure is so repulsive that often she will not accede to it even when in labor. Such scruples and shyness, caused perhaps by a misunderstanding, very often lead Filipina mothers to refuse the services of physicians and to repose their confidence in quack midwives." This is one of the principal reasons given for the almost primitive condition of obstetrical practice in the Islands. Whatever the causes of the vicious practices of the midwives, certainly the results are most lamentable and are to be seen on the streets of Manila or any of the provincial towns every day. Moreover, in Manila "the never-ending procession of women suffering from misplacements, prolapses of all degrees, lacerations of every conceivable class and severity, endometritis, fistulas, chronic congestions and inflammations, vesical troubles and general debilities is a common sight to the clinician."

It is easy to understand these conditions, as well as the fact that Filipina women become prematurely old, when one becomes aware of the obstetrical customs obtaining in the Philippines. Dr. Rebecca Parish has made a study of these customs and they are even more appalling than had been expected. Among many of the customs the following may be mentioned: If any one stands in the door in the presence of a pregnant woman, it is a sure sign that at the time of her labor the child will also stop at the door of the uterus. The prospective mother must not step over the tether of a pony while out walking as a difficult labor will result. Very tight belts and strings, worn about the waist during pregnancy, will insure an easy delivery and also prevent the child's growing too large. Many times the woman is forced to engage in the most arduous exercise, a favorite one being grinding rice; this causes an easy delivery, and is certainly effectual as the babe is sometimes born at the mill. During the course of even a normal pregnancy it is necessary for the midwife to make frequent examinations and, if she sees proper, to "change the position;" this she calls "placing the baby" and she receives 10 centavos (equal to 5 cents U. S. coin) for each such service. As a rule the Filipina woman is very indefinite as to the time when her pregnancy will terminate and consequently rarely is she prepared for this event. However, very little preparation is required except the midwife who is considered quite sufficient for her needs, and in many instances the patient cannot afford this luxury. In some provinces it is said that men act as assistants and are better for this purpose, as they are stronger and can apply more force in kneading, pressing, squeezing, pulling and pushing, as all these operations are considered essential. Short stout clubs, made of wood or burned clay and sold in the public markets, are used a great deal for pressing, pushing and kneading and are considered much more effectual for the purpose than is the hand. The waist is tied about tightly during labor to make sure that the child passes downward instead of upward. The placenta with a paper and pen buried under the house will insure a bright and intelligent child. It is said that soup made from small pieces of the placenta and given to the mother as her first postpartum nourishment prevents fever, weakness and other forms of illness. The mother is given large quantities of rice and urged to eat so that the abdomen will be filled, as it was so large before. The waist is tied after labor to prevent the abdomen filling full of wind when the patient breathes deeply and also to prevent the blood from coming up and out of the mouth. The bones of the sacro-iliac joint are separated during labor, therefore a strong band is placed about the hips and tied tightly by two men, one bracing himself on either side with his feet against the patient's body.

The patient's abdomen is rubbed with oil for 25 days so the uterus will become soft and send out the blood, thereby becoming small. Hemorrhage is encouraged by propping the patient up with pillows—this also prevents the uterus going high in the abdomen, and causes the bad blood, which must be gotten rid of, to drain better. Frequently the patient is almost exsanguinated, and death from hemorrhage may occur without any effort being made to stop the bleeding. Sleep is not allowed because it produces a tendency to insanity; frequently the patients are allowed to sit up and even to stand within a day or two after delivery. After-pains are greatly helped by the patient getting the odor of burning deer-skin. After three days the procedure of "replacing the uterus" takes place. For 9 days it is thought bad to eat salt or drink cold water. About the tenth day the woman is bathed with a little warm water and smoked underneath a mat enclosing her and a jar of burning leaves. Following this, since there is a suspicion that the uterus is still raw, a fire is made of charcoal in a large earthen pot and the patient stands astride this, surrounded by blankets and supported by her friends. It requires an hour of this treatment to cause the uterus to "dry up." For three months the woman should not put her hand in cold water, drink cold water or take a cold bath. This rule evidently does not apply to laundresses whose occupation calls them to the river or the spring. No antiseptic precautions are known; old rags, old clothing and the family bedding are used about the parturient.

Perhaps the most prevalent and terrifying of all the superstitions is concerning the "Aswang," an imaginary being, half man and half beast. This creature prowls around at night and is the terror of the patient and all her relatives, because he watches to get the blood of the patient and to steal the child. As he lives both in the air and on the land and is guided in his night depredations by a bat, it is next to impossible to feel free from him at any time. During the latter months of pregnancy it is necessary for the woman to sleep under a black cover so that the "Aswang" cannot see her; and frequently there is a fire kept burning under the house so that the smoke may keep him away. It is considered exceedingly dangerous to be out after dark, and if the woman does go out at this time it is necessary to wear the hair loose down the back, which is her protection against the "Aswang" influencing her child and causing him also to be an "Aswang."

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Aug. 26, 1910.

Measures Adopted in France Against Cholera in Italy

The now official news of the appearance of cholera in several localities in the Italian provinces of Bari and of Foggia in the region of Apulia, where the scourge seems to have been introduced by a band of Russian pilgrims from Odessa, has naturally aroused much excitement, not only throughout Italy but also in the neighboring countries. In France, M. Briand, the prime minister, immediately telegraphed to the prefects to apply to intercourse with the infected portions of Italy the provisions of the recent decree in regard to the cholera epidemic in Russia. These provisions include surveillance over travelers at the frontier stations; isolation of persons suffering from suspected ailments; reports from hotelkeepers and others of travelers who arrived from the infected regions; reports to the mayors of every case of suspicious disease, and the designation for each department of a delegate charged with directing the application of prophylactic measures, and the prohibition of the importation of objects or products such as clothing, rags, fruits or vegetables from affected regions. All the French ports have been warned to cause all vessels coming from infected regions to undergo the measures required by the maritime sanitary police. At the moment that I write, I learn that the Swiss

Federal Council is on the point of deciding to declare the Italian provinces of Bari and Foggia infected with cholera and of requesting the cantonal governments to take all measures of security against possible infection in Switzerland.

The Question of Charitable Assistance to Foreigners

The International Congress of Public Relief and Private Charity, which has just met at Copenhagen, has taken up among other problems, the delicate and complex question of public relief to foreigners. The Danish government has acquiesced in the request of the congress for a diplomatic conference in which this important question might be studied. At the initiative of the vice-president of the French delegation, M. Hébrard de Villeneuve, the congress has arranged the basis of a diplomatic understanding looking toward the repatriation of an important and expensive class of foreign paupers, namely, deserted children, the insane and confirmed paupers, or the reimbursement of the expenses of public relief. As uncompensated relief of the other classes of unfortunates might become a heavy charge on certain countries, the congress has endeavored to enlist the aid of charitable societies of various nationalities, which are quite able to play an important part in this matter, as is shown by an investigation by the French ministry of foreign affairs.

Monument to Dr. Mauchamp

At Chalon-sur-Saône, a monument has just been dedicated to Dr. Emile Mauchamp, who was assassinated in 1907 at Marakech in Morocco. Charged by the French government with the mission of founding dispensaries in Morocco, Dr. Mauchamp established himself at Marakech, Morocco, where France had as yet no consul. This situation in the heart of fanatic Morocco was particularly dangerous, and placed Dr. Mauchamp at the mercy of an uprising. At the instigation of a fanatic, who told the natives that the physician was sent to be a spy for an approaching invasion by the French, Emile Mauchamp was assassinated in cowardly fashion at the very moment when he was going from his house to his dispensary. He was hardly 37 years old. The monument was dedicated by M. Pichon, Minister of Foreign Affairs. It consists of a bust of Dr. Mauchamp on a high pedestal before which stands a Moroccan woman looking sadly at the man who has saved the life of the child that she carries on her left arm. On each side are bas-reliefs; one represents Dr. Mauchamp in his dispensary at Marakech caring for a little leper; the other reproduces the scene of the crime. The doctor is struck down and a Moroccan fanatic pierces him to the heart with a dagger while other bandits are stoning him and striking him on the head.

Utilization of Soiled Surgical Dressings

The commission of industrial hygiene of the Ministry of Labor recently received a complaint from labor delegates in regard to the utilization of soiled surgical dressings. In the political press, the subject is receiving all the more notoriety because, according to certain journals, the refuse in question comes from Germany, where such dressings are baled by powerful hydraulic presses and then sent into the vicinity of Paris where they are sorted over by women and children and then cleaned and sent out for commercial use. A medical journal has gone so far as to publish an article declaring that "the wounds of our patients are dressed with discarded German dressings." The fact is that the unscrupulous merchants who ply this repulsive trade do not need to go to Germany for their wares, for this deplorable traffic is carried on in France likewise. The sheets of glazed cotton which dressmakers use to pad women's garments are often made from cotton which has been used in dressings; and in certain felt factories the workmen are obliged to card dressings, especially cotton, still more or less soiled with blood or pus, which come from certain hospitals and clinics.

The Hygiene of Hospitals and Tuberculosis Among Nurses

It has long been recognized that dry sweeping of the floors of hospitals constitutes a practice dangerous both to patients and to attendants. The supervising council of the Public Charities of Paris is of the opinion that such methods of cleaning ought to be strictly forbidden in the Paris hospitals. Notwithstanding, they continue to be used. As tuberculosis is especially frequent among the lower grades of the hospital staff and as there is a mortality of about 20 per cent. among the hospital attendants, the association of hospital attendants has several times demanded that such methods of cleaning should be discontinued. The answer of the administration is that in many cases the medical profession is opposed to washing and dampening floors before sweeping. The secretary of the nurses' society has therefore asked the opinion of all the physicians of the Paris hospitals in regard to the practice.

Stiff Knapsacks No Longer to be Used in the French Army

The knapsack hitherto carried by our troopers, which was adopted after the Algerian conquest and which has just been replaced by another model, has a rigid frame which presses most uncomfortably on the back during long marches and compresses the shoulder by straps which impede the respiration considerably. Unanimous approval, therefore, greets the adoption of the new knapsack, a kind of little water-proof canvas case, carried low, about the lumbar region and held in place by two straps of flexible leather depending from the shoulders like tourists' knapsacks. The new knapsack packed weighs only 3,950 gm. (about 10 pounds). It contains a change of linen, reserve provisions and an aluminum kettle of 3 liters (nearly 3 quarts). While the old knapsack, with its rigid frame, is always of the same volume whatever its contents and is always uncomfortable, the new knapsack, because of its flexibility, takes the form and the dimensions of its contents.

Death of Professor Masse

Dr. Ernest Masse, former professor of operative medicine at the Bordeaux college of medicine, has just died at Montpellier, where he retired about four years ago. Born in 1839, he was made professor in 1880 and the same year he founded the *Gazette hebdomadaire des sciences médicales de Bordeaux*.

BERLIN LETTER

(*From Our Regular Correspondent*)

BERLIN, August 18, 1910

Personal

Prof. G. Klemperer, who is at the same time director of the medical department of the Moabit Hospital, has undertaken the supervision of the institute for cancer research, hitherto conducted by von Leyden. Leyden, whose health is failing more and more, resigned from this position a few months ago. It may be considered as quite questionable whether there is any need of continuing this institution, for the prospects of attaining any notable progress in the field of cancer pathology and therapy by special investigation have not only not increased within recent years but have actually grown less. All the studies on the experimental communication of cancer have yielded very slight results, for the problem of human cancer and investigations on the treatment of cancer are better carried on in the various clinical institutions for internal medicine as well as for surgery and gynecology than in a small institution for that special purpose.

Professor Lexer of Königsberg has received a call as successor to Riedel in the surgical clinic at Jena.

Cholera in Russia

As is the rule in late years, cholera has broken out in Russia and is threatening East Prussia. In the last report of the Russian ministry about 3,500 cases of cholera were reported in six cities, of which one-half were fatal. In the whole affected district the number of cholera cases is much greater than that reported. The difficulties that are met in dealing with an epidemic of the character of cholera in a country so little civilized as Russia are not to be forgotten, but it may also be stated without doubt that the government officials are not capable of performing their task; else better results would have been obtained than has been the case hitherto. So far no invasion of Prussia by the cholera has occurred. The plague has also broken out in Southern Russia; in one district alone 145 places have been officially noted as infected.

An Arabian Doctor of Medicine

A few days ago the Berlin medical faculty granted the degree of doctor of medicine summa cum laude to the Arabian sheik Hamed Waly from Egypt, who is a seminar lecturer on Arabic at the Berlin University. This is the first time that an Arabian from Egypt has received this title in Berlin. His thesis included three chapters from the medical history of Ibn Abi Osaibi'a and gives in the introduction the life and works of this physician who was very noted in Arabia in the thirteenth century and who wrote a very careful history of medicine. The new Arabian doctor who was employed in his own country at the Azhar mosque has been appointed by the Egyptian government as a sanitary inspector.

Hospital for Juvenile Criminals

For some years juvenile criminals have been tried in Prussia before special courts, so-called juvenile courts. This arrangement rests on the assumption that the mind of children requires special treatment and that the process before a general court is not suitable for youthful criminals, neither for the purpose of punishment nor for the youths themselves. It is now purposed to erect a hospital for such youthful criminals as have shown mental or physical defects in the proceedings of the juvenile court in order eventually to bring up a part of these youthful criminals as useful members of human society. In addition there has been for some time a movement on foot by a committee under the leadership of Professor Ziehen, a psychiatrist of this city, to collect the funds for an institution for psychopathic children.

New Bath Arrangements at Nauheim

In order to increase the bathing facilities for the constantly growing throng of patients at Nauheim, the Hessian government has determined to provide for the piping of water from the springs to each of the hotels of the place for a certain fee so that the patients may use the spring water in the hotels themselves. This plan is very desirable and it will remove to a great extent the frequent complaints of patients that they have to wait too long for their baths; it will also make it possible for those whose disease makes it difficult for them to go to the treatment house to take their baths in their own dwelling. Similar arrangements are found in other bathing resorts, especially at Wiesbaden.

A Sordid Business

As the newest drawing card for a so-called backstairs romance is the announcement made by the publishers that all readers of the novel who are in possession of the last installment may receive free medical advice in cases of illness. Also they will be furnished medicines at a remarkably reduced price. Whether a physician has already offered himself for such a disreputable practice or whether the publisher will first take pains to find such a physician when he has received a sufficient number of subscribers is not known.

Quackery in Saxony

The kingdom of Saxony has been known for a long time as the Eldorado of quackery. The number of quacks according to official enumeration has continually increased. In 1900 there were 748; in 1909, 1,337, nearly twice the number; there surely are more than are officially noted. The city of Dresden harbors proportionally most of the quacks, to the number of 374, with a population of about 395,000. At the beginning of 1909 there were in Saxony 2,129 licensed physicians, so that the number of quacks equals two-thirds of that of the physicians. In many large districts the quacks exceed the physicians.

Eddyism

According to a decision of the highest Prussian court, recently published, Eddyism is regarded as a commercial exercise of the healing art. Those pursuing it must report themselves to the district physicians (*Kreisärzten*) for inclusion in the list of unlicensed practitioners.

The Municipal Hygienic Laboratory of Berlin

The first official report of the municipal hygienic laboratory has been published and contains a number of generally interesting communications. The institute conducts investigations of foodstuffs and bacteriologic examinations both at the request of municipal officials and private persons (the latter partly for pay). The degree of uncleanliness which has occasionally occurred in the preparation of food is shown by the circumstance that once a lump of horse manure was found in a sausage. An examination of noodles showed that the entire sample had been made without eggs. The examination of Haferkakao (Oat Cacao) showed 50 to 60 per cent. of oatmeal. The price is designated as being as a rule disproportionately high as compared with the first cost of the individual constituents. Among the medicines Investigated "Epileptol-Rosenberg," which according to the statement of its discoverer is a condensation product of aminoformic acid, was shown to be a watery solution of a mixture of formamid and formaldehyde with small amounts of hexamethylentetramin. A diabetes powder consisted of a mixture of roasted and unroasted lentil groats. The investigation of substances used during an epidemic of febrile diarrhea showed repeatedly the presence of paratyphoid bacilli. In a diphtheria epidemic in a Berlin parochial school, diphtheria bacilli were found in a large number of the pupils, some of whom showed a mild pharyngeal catarrh. Diphtheria bacilli were also found in the crevices in the class room. After energetic disinfection of the class room and treatment of the children at home, the diphtheria bacilli disappeared without a new infection occurring. The examination of the Berlin tap water showed that it must be regarded as an unobjectionable drinking water.

VIENNA LETTER

(*From Our Regular Correspondent*)

VIENNA, Aug. 22, 1910.

The Cholera Danger

For some time, Russian districts have been the seat of a severe cholera epidemic, and the possibility of its introduction into this country is imminent. The frontier common to Russia and Austria-Hungary is very long, several hundreds of miles in extent and the population on both sides of this line belongs to the same race, nationality and often also, creed; therefore intimate business and social relations exist between the infected districts and our own country. With the spread of cholera, strict precautions have been taken by our health department. The International Cholera Convention makes it obligatory for the infected country to inform every other member of the convention of each case of cholera, as well as of each suspicious place. Therefore, it has been possible for the last eight or ten years to suppress any danger from sporadic outbreaks in the vast Russian country. This year, however, the epidemic has assumed such proportions and severity that very real danger now threatens central Europe. The measures of quarantining all persons crossing the frontier for a period of at least eight days, of disinfecting their baggage and vehicles, and of prohibiting the importation of all articles of food, leather, hide, hair, and second-hand clothes from the infected districts have hitherto been effective, as only two cases have been observed within Austrian boundaries in two months, and in both cases the persons had arrived from Russia. The real danger is the extensive smuggling business going on between the two countries; the utmost efforts of the health, excise and revenue departments are directed against this possible channel of infection.

Meanwhile, another focus of infection for Europe has been discovered in southern Italy, where cholera has killed over forty persons within a few days. Italy, which has just now an enormous influx of visitors from all parts of the civilized world, borders for over 200 miles on Austria, while only a narrow strip of sea, the Adriatic, separates it from the Austrian coast for a length of about 250 miles. There, too, the same racial and trade relations exist as on the Russian frontier. The notorious lack of public sanitation both in Russia and Italy makes the task of Austria very hard. Naturally, the populace here is much alarmed and all help is given to those entrusted with the hard task of prophylaxis. The leaflets of instruction distributed among the people are eagerly received and, what is better, obeyed.

Vacant Seats in the Vienna University

There are at present vacant three important chairs for medical instruction, those of the deceased Schnabel and Zuckerkandl (ophthalmology and anatomy, respectively), and of von Strümpell (medicine), whose sudden resignation caused so much comment in all circles. The successors have been nominated already by the recommendations of the medical faculty of the university; and Professor Demmer of Graz will take over the eye clinic in October; it will be remembered that this place was refused by Hess on account of the insufficient endowment and little space in the old clinic whence so much original investigation had come. The chair of anatomy has been offered to Tandler of Vienna, who will probably be appointed. The successor of Strümpell will be either Chvostek or Ortner, both Austrians and both in very good standing in medical circles. Ortner has the better chance, being a younger man and more in touch with the most important government personages. Either of the two would be very welcome to the students, who suffer much under the frequent changes.

Death of Professor Oser

A few days ago, Prof. Leopold Oser, one of the best-known Vienna physicians, died after a prolonged illness, in the seventy-first year of his age. Oser had celebrated his jubilee a few months ago, and according to the custom here, had to resign his post, that of clinical professor, on attaining the patriarchal age. He was granted, however, an "hon-

orary year"—a mark of special esteem—and he died just on the eve of his final resignation. He was director of the Rothschild (Jewish) Hospital, and also head of the internal department of the General Poliklinik. In both these positions, he had gained the esteem and love of patients and students and his classes were very much frequented by foreign doctors, too. He was a recognized leader as a specialist on the diseases of the alimentary canal. His most famous books were "The Mechanical Treatment of Diseases of the Stomach and Intestines," "The Neuroses of the Stomach," "Atonia Gastrica," and a treatise on the pancreas, which is a standard work on this subject. He was a gifted and keen observer of symptoms, an exceedingly exact and scientific investigator, who did not publish much because of his long and painstaking investigations, but each of whose words stood every test. He had reached about the utmost honors a physician can attain in this country: He was imperial councillor and president of the board of health. It need not be said that his private practice was one of the best in this country.

Marriages

GEORGE BLAINE CROW, M.D., U. S. Navy, to Miss Ruth Bokenkamp, at Agana, Guam, May 26.

ALEXANDER C. FOSTER, M.D., to Miss Helen Vowells, both of Owensboro, Ky., at Louisville, August 11.

JOSEPH LINTON SINER, M.D., Philadelphia, to Miss Alice Lampe Gann of Jersey Shore, Pa., recently.

FANEUIL DUNKIN WEISSE, M.D., to Mrs. Mary Churchill Ripley, both of New York City, August 27.

COURTLAND LINDEN BOOTH, M.D., Portland, Ore., to Miss Juanita Clemm Snyder of Wheaton, Ill., August 24.

Deaths

Charles Benoni Hanson, M.D. University of Tennessee, Nashville, 1897; for six years superintendent and physician and surgeon-in-charge of the Monterey (Mexico) Hospital, an institution under the direction of the Board of Missions of the Methodist Episcopal Church, South; a member of the International Medical Association of Mexico; died in a sanitarium in San Antonio, Texas, August 10, from pellagra, aged 47.

Guy Carson Kinnaman, M.D. Rush Medical College, 1903; a member of the American Medical Association; fellow in surgery in Rush Medical College from 1903 to 1908; instructor in skin and venereal diseases in the Chicago Policlinic, and clinical assistant and lecturer on diseases of the skin in Rush Medical College; died at the home of his parents in Ashland, Ohio, August 29, from ptomain poisoning, aged 32.

Robert Bruce Hixson, M.D. College of Physicians and Surgeons, Chicago, 1900; a member of the American Medical Association; local surgeon at Cambridge, Minn., for the Great Northern Railway; city physician of Cambridge; chairman of the local board of health, and physician of Isanti county; died at his home in Cambridge, August 23, from anterior poliomyelitis, aged 36.

Robert Amory, M.D. Harvard Medical School, 1866; of Boston; a member of the Massachusetts Medical Society; lecturer on physiology and the action of drugs in his alma mater, and later professor of physiology in Bowdoin Medical College, Brunswick, Maine; author of several works on physiology and therapeutics; died at his summer home in Nahant, Mass., August 27, aged 68.

James Meredith Mathews, M.D. Jefferson Medical College, 1840; a member of the Medical Society of the State of Pennsylvania and once president of the Berks County Medical Society; who retired from practice in 1873; for many years justice of the peace; died at his home in Reading, August 17, nine months after sustaining a fracture of the hip, aged 93.

Thomas Evans Westman Brown, M.D. College of Physicians and Surgeons, New York City, 1900; a member of the American Medical Association; of Asheville, N. C.; died suddenly from heart disease, in Memphis, Tenn., August 23, aged 37. At a special meeting of the Buncombe County Medical Society suitable resolutions and memorials were adopted.

David Gilmore Foster, M.D. Western Pennsylvania Medical College, Pittsburg, 1898; formerly of Crafton, Pa.; for three years resident physician in the West Penn. Hospital, Pittsburg; died in Campo, Cal., August 18, from the effects of a gunshot wound of the head, self-inflicted, it is believed, while despondent, on account of ill health, aged 35.

Bezaleel Bell Andrews, Jr., M.D. Marion-Sims College of Medicine, St. Louis, 1896; Kansas City-Hahnemann Medical College, 1904; formerly of Cordell, Okla., but more recently of Kansas City, Mo.; died in the Kansas City General Hospital, August 23, from the effects of phenol, self-administered, it is alleged with suicidal intent, aged 35.

William E. Miller, M.D. Ensworth Medical College, St. Joseph, Mo., 1891; formerly a member of the American Medical Association; local surgeon at Wellington, Colo., for the Colorado and Southern Railroad; died in the Fort Collins, Colo., Hospital, August 19, from septicemia, two weeks after an operation for appendicitis, aged 50.

Albert Charles Lewis, M.D. Minnesota Hospital Medical College, Minneapolis, 1882; of Mount Vernon, Wash., for several years a member of the local board of education and a member of the city council; died August 22, from heart disease, while crossing the sound from his camp on Whidby Island to the main land, aged 56.

Frank Denton Gavin, M.D. University of Maryland, Baltimore, 1874; a member of the American Medical Association; general superintendent of the Church Home and Infirmary, Baltimore, for thirty-five years; died at his home in that city, August 24, from an infection of the throat, after an illness of three months, aged 56.

William Wands, M.D. Medical College of Indiana, Indianapolis, 1880; a member of the Indiana State Medical Association; a surgeon during the Civil War; for more than 50 years a practitioner of Indianapolis, and for 8 years physician of Marion county; died at his home in Indianapolis, August 25, from heart disease, aged 73.

Albert Gallatin Sims, M.D. University of Nashville, Tenn., 1869; a member of the American Medical Association; formerly president of the Talladega County (Ala.) Medical Society, and senior councilor of the Medical Association of the State of Alabama; died at his home in Renfroe, August 8, from paralysis agitans, aged 66.

Edward Lee Pearce, M.D. University of Louisville, 1886; a member of the Kentucky State Medical Association; assistant surgeon of the Louisville Legion from 1888 to 1898; and for many years local surgeon in Louisville for the Illinois Central Railroad; died at his home, August 23, from pericarditis, aged 46.

Edwin J. Richardson, M.D. Central College of Physicians and Surgeons, Indianapolis, 1881; a veteran of the Civil War; for 23 years a special pension examiner in Washington, D. C.; and for four years deputy coroner of Marion county, Ind.; died at his home in Washington, June 23, from nephritis, aged 65.

Caleb Allen Manley, M.D. University of Nashville, 1857; surgeon in the Confederate service during the Civil War; formerly president of the Madison County (Tenn.) Board of Health, and one of the oldest practitioners of Jackson; died at his home in Jackson, August 19, from paralysis, aged 76.

Joseph Janney Hall, M.D. New York University, New York City, 1858; a member of the New York Pathological Society; and for many years consulting surgeon to the Nursery and Children's Hospital; died at his home in New York City, August 26, from arteriosclerosis and myocarditis, aged 76.

Daniel Watt Copeland, M.D. Starling Medical College, Columbus, Ohio, 1893; who served three years in the medical department of the Navy and for one year in the Army during the Spanish-American War; died at his home in Somerton, Ohio, August 23, from autointoxication, aged 40.

Stephen Milton Hand, M.D. Berkshire Medical College, Pittsfield, Mass., 1853; for twenty years health officer of Norwich, N. Y.; and at one time president of the Chenango County Medical Society; died suddenly August 9, from heart disease while making a professional call, aged 79.

Foster Frutchey, M.D. Medico-Chirurgical College of Philadelphia, 1891; a member of the Illinois State Medical Society; professor of operative surgery and applied anatomy in Illinois Medical College; died at his home in Chicago, August 28, from meningitis, aged 44.

Joseph Merritt Moore, M.D. Eclectic Medical College of the city of New York, 1881; a veteran of the Civil War; once

president of the state eclectic medical society; died at his home in West Rupert, Vt., August 17, from valvular heart disease, aged 74.

James E. Taylor, M.D. Cincinnati College of Medicine and Surgery, 1871; of Richmond, Ind.; a veteran of the Civil War; a practitioner for more than 50 years; died in a sanitarium in Spiceland, Ind., August 25, from heart disease, aged 75.

Henry Francis Murray, M.D. Tulane University of Louisiana, 1851; a veteran of the Mexican War; for 60 years a resident of the Choctaw and Chickasaw nations; died at the home of his son near Colbert, Okla., Dec. 29, 1909, aged 91.

Samuel Scott Salisbury, M.D. Western Reserve University, Cleveland, 1854; a member of the Illinois State Medical Society; for nearly half a century a practioner of Tolono, Ill.; died at his home, August 22, from senile debility, aged 81.

Henry M. Pollard, M.D. Missouri Medical College, St. Louis, 1888; a member of the American Medical Association; for more than 20 years a practitioner of Shelbina, Mo.; died in Kansas City, Mo., August 21, from myocarditis, aged 49.

Martha A. Richardson, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1896; of Canton, Ill.; a member of the American Medical Association; died in the Proctor Hospital, Peoria, Ill., August 25, from chronic nephritis, aged 39.

Paul Cheesebrough Skiff, M.D. Yale University, New Haven, 1853; of New Haven; a practitioner of New Haven for more than 40 years; died at his summer home in Kent, Conn., August 26, from cerebral hemorrhage, aged 81.

Robert W. Park, M.D. University of Pennsylvania, 1856; surgeon of the Fifth Alabama Infantry, C. S. A. during the Civil War; and for nearly 40 years a practitioner of Waco, Texas; died at his home, August 21, aged 74.

Oscar W. Oberlander, M.D. Syracuse (N. Y.) University, 1881; a member of the Medical Society of the State of New York and the Syracuse Academy of Medicine; died in Ogdensburg, N. Y., June 25, from general paresis.

Harland L. Stanbro, M.D. University of Buffalo, 1896; died at his home in Prattsburg, N. Y., August 9, from burns caused by the explosion of the gasoline tank of an automobile a week before in Wayland, aged 39.

William B. Presnell, M.D. Barnes Medical College, St. Louis, 1901; of Center, Okla.; died in that place, August 29, from the effects of a gunshot wound of the head, self-inflicted, it is believed, with suicidal intent, aged 39.

Darwin G. Palmer, M.D. Western Reserve University, Cleveland, 1879; a veteran of the Civil War; a member of the American Medical Association; died at his home in Geneva, Ohio, August 27, aged 68.

Joseph J. Tremblay, M.D. College of Physicians and Surgeons, Chicago, 1895; a member of the American Medical Association; died suddenly at his home in Moline, Ill., August 23, from heart disease, aged 48.

David Howard Cronyn, M.D. Long Island College Hospital, Brooklyn, 1873; a veteran of the Civil War; coroner of Brown county, S. D.; died at his home near Houghton, August 21, from arteriosclerosis, aged 66.

Joseph Dennis Willson, M.D. Cooper Medical College, San Francisco, 1873; for more than 50 years a practitioner of California; died at his home in Cloyne Court, Berkeley, August 25, from nephritis, aged 80.

William Becker Stewart, M.D. University of Vermont, Burlington, 1904; formerly a member of the Vermont State Medical Society; died at his home in Unadilla, N. Y., August 21, from nephritis, aged 32.

Kimmel K. Harrison, M.D. Eclectic Medical Institute, Cincinnati, 1872; of Clayton, Mich.; died near his home in that place, August 24, from the effects of the kick of a horse, aged 75.

William H. C. Sterrett, M.D. Missouri Medical College, St. Louis, 1891; formerly of Corning, Mo.; died in Excelsior Springs, Mo., July 28, from the effects of a fall down stairs, aged 40.

Julius Stein, M.D. College of Physicians and Surgeons, New York City, 1885; died at his home in New York City, July 22, from fatty degeneration of the heart, aged 47.

Jacob Alexander Baker, M.D. Meharry Medical College, Nashville, 1903; formerly of Jacksonville, Fla.; died in Asheville, N. C., August 16, from tuberculosis, aged 33.

Nicholas Blackwell, M.D. Jefferson Medical College, 1860; surgeon in the Confederate service during the Civil War; died at his home in Bartlett, Tenn., August 16, aged 71.

Louis Phillipe Coyner (Years of practice, Va.) For twenty years a practitioner of Spring Creek; died at his home in Waynesboro, August 11, from diarrhea, aged 62.

Francis M. Carey, M.D. Paris, France; a veteran of the Mexican and Civil wars; died at his home in Fort Scott, Kan., July 9, from senile debility, aged 91.

Wilson Lumpkin Heflin, M.D. Medical College of Georgia, Augusta, 1851; died at his home in Roanoke, Ala., August 13, from cerebral hemorrhage, aged 82.

Isaac N. English, (license, Minn., 1896); for many years a practitioner of Motley; died in Brainerd, August 26, from carcinoma of the stomach, aged 59.

John Jacob Strecker, M.D. Columbus (Ohio) Medical College, 1880; died at the home of his son in Chattanooga, Tenn., August 6, from diabetes, aged 79.

William C. Stout, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1871; died at his home in Killbuck, Ohio, August 19, from paralysis.

Frederick Densmore Tyrrell, M.D. Bellevue Hospital Medical College, 1895; died at his home in Sacramento, Cal., August 5, from uremia, aged 39.

Robert Emery, M.D. Victoria College, Toronto, 1857; one of the oldest practitioners of Peoria, Ill.; died suddenly in Dunlap, Ill., August 24, aged 82.

Douglas C. Cannon, M.D. Bellevue Hospital Medical College, 1866; a Confederate veteran; died at his home in Norfolk, Va., August 21, aged 74.

Alfonso Wetmore, M.D. New York University, New York City, 1848; died at his home in Clinton, Iowa, August 24, from senile debility, aged 89.

Charles B. West, M.D. Jefferson Medical College, 1883; died suddenly at his home in Upper Strasburg, Pa., August 18, from heart disease, aged 52.

Hannah Tyler Wilcox, M.D. Homeopathic Medical College of Missouri, St. Louis, 1884; died at her home in St. Louis, Nov. 22, 1909, aged 71.

Otis A. Jakway, M.D. University of Buffalo, 1875; a veteran of the Civil War; died at his home in Breesport, N. Y., August 14, aged 76.

William Fleet Nelson, for 33 years a practitioner of Clay county, Mo.; died at his home in Liberty, Dec. 26, 1909, from rheumatism, aged 60.

William W. Easton, M.D. Bennett Medical College, Chicago, 1877; died at his home in Dowagiac, Mich., July 14, from paralysis, aged 56.

Chalon Guard Campbell, M.D. Washington University, St. Louis, 1875; died at his home in San Bernardino, Cal., August 22, aged 61.

Pharmacology

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION]

CAPTOL

W. A. Puckner and L. E. Warren

"Captol" is a hair tonic put on the American market by Mülhens & Kropff, New York City under the following claims:

"Captol is a newly invented chemical product of the Chemical Works, late Fr. Bayer & Co., Elberfeld."

". . . the outcome of the joint condensation of tannin and chloral and possessing neither the unpleasant secondary effects of tannin nor the particular irritating action so frequently observed in the employment of chloral."

"The unrivalled hair tonic."

"A preventive of baldness."

"Contains: Not to exceed 70 per cent. alcohol, 4 grains chloral hydrate to the ounce, 3 grains Captol pure to the ounce."

Since, according to the circular, "Captol" is a condensation product of chloral and tannin the term "Captol" is evidently used by the manufacturer in two senses, viz., one intended to refer to the alleged chloral-tannin "synthetic" and the other meaning a solution of the "synthetic," together with other ingredients, in alcohol.

Several formulas for "Captol" hair tonics are found in pharmaceutical literature. As they are all similar, the fol-

lowing taken from the *Pharmazeutische Zeitung* (Vol. xlii, 1897, p. 770) may be taken as the type:

Captol	1.0
Chloral hydrate	1.0
Acid, tartaric	1.0
Castor oil	0.50
Perfume	q. s.
Alcohol (65 per cent.) q. s. ad.	100.0

In addition to these ingredients some of the suggested formulas contain resorcin and salicylic acid. It is stated in Hager's "*Handbuch der Pharmazeutischen Praxis*," Ergänzungsband, p. 203, that a "hair water" similar to the original may be made according to the following formula:

B	
Chloral. hydrati	2.0
Acidi tannici	1.0
Acidi tartarici	1.0
Ol. ricini	0.25
Spiritus	65.00
Aqu. dest.	35.00
Essentiae odor. Violae	5.00

An examination of the patent files showed that in 1897 a German patent was granted to the Farbenfabriken vorm. Friedr. Bayer & Co. (D. R. P. 98,272) for a process by which it was claimed that chloral and tannin could be combined. The new "synthetic" is described as a grayish-brown, fine, amorphous powder which is slightly soluble in cold water but readily soluble in alcohol.

Other than the above, the only information that could be obtained concerning the composition of this alleged tannin-chloral compound is found in the medical and pharmaceutical journals of about ten years ago. There it is stated that "Captol" is a condensation product of chloral and tannin, an assertion evidently based on the claims made in the patent specifications. While such statements have appeared in medical and pharmaceutical publications, an examination of price lists shows that at present there is apparently no such compound for sale on the American market. An order for "Captol," without other qualifications, placed with a large wholesale drug firm brought only the proprietary liquid preparation of that name. Chemical literature apparently shows no other record of such a compound having been made and studied either by the Farbenfabriken of Elberfeld Co., or by others. In reply to an inquiry for information concerning this alleged synthetic the Farbenfabriken of Elberfeld Co., New York, the American agents for Farbenfabriken, vorm. Friedr. Bayer & Co., stated that they did not handle it but referred to Mülhens & Kropff, the exploiters of "Captol" hair tonic. An inquiry for information addressed to this company and accompanied by a request for a specimen of the compound which is supposed to form the basis of the preparation, elicited no reply.

Since the tannin-chloral compound (if there be such) could not be procured on the American market, specimens of the hair tonic of the same name—put up in typical "patent medicine" form—were purchased and were examined in the Association laboratory.

The material examined was a dark, amber-brown liquid, smelling strongly of alcohol and eau de cologne. Qualitative tests indicated the presence of alcohol, tannic acid, chloral and traces of a fixed oil, perfume and coloring matter. Neither resorcin nor salicylic acid were found. Quantitative analysis showed that the preparation contains nearly 4 grains of chloral hydrate and about 6 grains of tannic acid in each fluid ounce, an amount of each substance greater than could possibly be present in 3 grains of "Captol" were such a compound present. Hence considerable quantities of chloral and tannin must be present in the free state. Since "Captol" (the "synthetic") is claimed to possess "neither the unpleasant secondary effects of tannin nor the particular irritating action . . . of Chloral" its employment (as claimed) in a mixture containing both free tannin and chloral would be irrational and unscientific.

Analysis[1] indicated that the composition of "Captol" is essentially as follows:

Chloral hydrate	0.83	gm. in 100 c.c. (3.8 gr. per fl. oz.)
Tannic acid	1.333	gm. in 100 c.c.
Tartaric acid	0.81	gm. in 100 c.c.
Alcohol (U. S. P.)	64.44	c.c. in 100 c.c.
Perfume, Coloring matter, Fixed oil (probably castor oil)	a.a., a trace	
Water (by difference) to make	100	c.c.

No evidence was obtained that the tannin and chloral were combined in any way as the usual qualitative reactions for each substance were obtained. Bearing in mind the reluctance of the manufacturers to furnish information concerning the product, the dearth of reliable information in the literature concerning the tannin-chloral compound—Captol—and the negative evidence obtained by the examination of the material as it appears on the market, it seems very probable that no such compound of tannin and chloral is present and that the proprietary hair water "Captol" is nothing more than an aqueous-alcoholic solution of chloral hydrate, tartaric acid and tannin, with a little fixed oil, coloring matter and perfume.

1. The analysis in detail will be sent on receipt of a stamped, addressed envelope; it will also be published in the annual report of the Chemical Laboratory.

Correspondence

Registration of Foreign Physicians

To the Editor: The comments on my letter in THE JOURNAL, August 6, are interesting. The correspondent of August 20 realizes the importance of legal regulation of registration of foreigners. The one who wrote August 27 is a Canadian and probably has some friends and countrymen who wish to register in the United States before long. He does injustice to the American physician. It is true that a great many old practitioners received complimentary recognition when state laws were first enacted. They could not well have been turned down, but to-day our recognized colleges are equal to those of other countries, and in some instances superior, as was shown by Dr. Honeij in THE JOURNAL, September 3, and our state examinations are so thorough that only well qualified men can pass. This, however, is not the fundamental question. We want recognition in other countries, which we will never have so long as we admit foreigners to our state examinations without requiring equal rights for our graduates from them. As I said in my first letter, why should foreign countries admit our graduates when we give them all the rights they could desire? If we should keep foreigners out until those countries decide to reciprocate with us, it would not be long before American physicians would be recognized the world over, and then we would be glad to welcome our friends from abroad and we would feel that we were their equals wherever we met them, at home and abroad.

A. J. HOENES, Denison, Iowa.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

HEALTH OFFICERS AND WATER PURIFICATION

To the Editor:—I was much interested in the editorial on "Purification of Water" and on the necessity of having efficient health officers. Please direct me to the most up-to-date and practical filter for a town of about 10,000, and also give the method of coagulation and mechanical filtration.

E. B. HARDIN, Florence, Ala.

ANSWER.—Probably the most useful book along this line is Hazen's "Clean Water and How to Get It," published by John Wiley and Sons, New York.

It is impossible to make recommendations for a specific local situation without full knowledge of the local conditions. Circumstances vary so greatly that a method or form of apparatus that might be very satisfactory in one locality would not be desirable in another. We would suggest that advice be obtained from some expert sanitary engineer, who can investigate local conditions and give an expert judgment. Names of competent firms can be obtained from either the *Engineering News* or the *Engineering Record*, New York City.

PRONUNCIATION OF "DIPHTHERIA"

To the Editor:—What is the correct pronunciation of diphtheria. Is it *dif*-theria or *dip*-theria? F. E. S.

ANSWER.—Most authorities prefer the pronunciation *dif*-theria. *Dip*-theria is given as a second choice by several dictionaries: Century, Stormonth and Webster. The word is derived from the Greek *diphthera* (διφθέρα), a membrane, so that the pronunciation corresponds to the teymology.

PREPARATION OF SECTIONS FOR THE MICROSCOPE

To the Editor:—Please refer me to a late work on the preparation of specimens for the microtome and the technic for staining sections in pathologic work? V. L. MANN, Melrose, Mass.

ANSWER.—Mallory and Wright: Pathologic Technic, W. B. Saunders Co., Philadelphia. Lee: The Microtomist's Vade-Mecum, P. Blakiston's Son & Co., Philadelphia.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Aug. 27, 1910:

Norriss, H. C. R., M. R. C., relieved from duty at Vancouver Barracks, Wash., and will proceed to his home, and on arrival there report by telegraph to the Adjutant General of the Army for further orders.

Sanford, Joseph L., M. R. C., granted 30 days' leave of absence.

Hill, Felix R., lieut., left Fort George Wright, Wash., en route to Wallace, Idaho, on detached duty.

Graham, George D., D. S., left Fort Leavenworth, Kan., on 10 days' leave of absence.

Maul, Louis M., col., will proceed from Chicago, to Fort Benjamin Harrison, Ind., for duty at Camp of Instruction.

Hall, James F., capt., in addition to his other duties, will take charge of the office of the chief surgeon, Dept. of the Lakes, Chicago.

Persons, Elbert E., major, will, at the proper time, join the 11th and 18th Cos. Coast Artillery in New York City, and proceed with those organizations to San Francisco, and on completion of this duty return to station. Major Persons is authorized to delay one month en route on returning.

Hess, Louis T., major, will proceed, at the proper time, to Fort Mott, N. J., for duty with the 42nd and 138th Cos. Coast Artillery, en route to San Francisco. Major Hess is authorized to delay 10 days en route in returning.

Reasoner, M. W., capt., left camp, American Lake, Wash., en route to Butte Falls, Ore., with troops to fight fire.

Griswold, W. Church, M. R. C., relieved from duty at Fort Oglethorpe, Ga., Oct. 1, 1910, and will proceed to Brooklyn, reporting on arrival to the Adjutant General of the Army. Lieutenant Griswold is relieved from active duty in the M. R. C., to take effect on the expiration of leave of absence granted him this date for 1 month and 15 days, to take effect on arrival at Brooklyn.

Manly, C. L., major, granted leave of absence for 2 months.

McIntyre, H. B., capt., relieved from duty at Army General Hospital, San Francisco, and ordered to Fort Caswell, N. C., for duty.

Sanford, Joseph L., M. R. C., relieved from duty at Fort Caswell, N. C., and ordered to Fort Ruger, H. T., for duty.

Hopwood, L. L., capt., relieved from duty at Army General Hospital, San Francisco, and ordered to Fort Monroe, Va., for duty.

Bartlett, Wm. K., capt., relieved from duty at Fort Totten, N. Y., and ordered to the Philippines Division for duty on transport sailing from San Francisco, Nov. 5, 1910.

Heffelower, Roy C., lieut., relieved from duty at Army Medical School, and ordered to Fort Hamilton, N. Y., for duty.

Gentry, Ernest R.; Thearle, Wm. H., lieuts, relieved from duty at the Army Medical School and ordered to Fort Leavenworth, Kan., for duty.

Cooper, Alexander F., lieut., relieved from duty at Army Medical School, and ordered to proceed to San Francisco, for assignment to duty at Army General Hospital, San Francisco.

Risdon, Herbert T., D. S., recently appointed, will proceed from San Francisco, to Fort Miley, Cal., for temporary duty.

Woodson, Thomas D., lieut., reports arrival at Republic Wash., with Cos. B and C, 1st Inf., on detached service, left Camp, American Lake, Wash., Aug. 13, 1910.

Marshall, John S., P. A. D. S., admitted to Army General Hospital, San Francisco, for observation and treatment.

Patterson, R. F., D. S., left Fort Sheridan, Ill., en route to Fort Benjamin Harrison, Ind., on temporary duty.

Keller, William L., capt., left West Point, N. Y., with cadets on practice march.

Banister, William B., lieut. col., left Camp Bruce E. McCoy, Sparta, Wis., on leave of absence.

Jenkins, F. E., M. R. C., left Camp of Instruction, Fort Riley, Kan., on leave of absence.

Baily, Howard H., capt., ordered to proceed to Fort Ancient, Ohio, for duty as inspector-instructor of the First Ohio Brigade Encampment, from Aug. 27 to Sept. 4, 1910.

Thearle, Wm. H., lieut., granted 10 days' leave of absence about Sept. 1, 1910.

Crum, Wayne H., lieut., ordered to accompany Co. A, Signal Corps, to Fort Benjamin Harrison, Ind., for duty at Camp of Instruction.

Barney, Charles N., major will report in person without delay to Brigadier General Wm. P. Hall, adjutant general, president Army Retiring Board, at Washington, D. C., for examination by the board.

Baker, David, major, leave of absence extended 20 days.

Bowman, M. H., M. R. C., ordered to Presidio of San Francisco, for temporary duty.

Pierson, Robert H., capt., left Vancouver Barracks, Wash., on detached duty, en route to Butte Falls, Ore.

Lynch, Edward C., M. R. C., reports for duty at Fort D. A. Russell, Wyo., Target and Maneuver Reservation, Wyo.

DeWill, Wallace, major, left Fort Yellowstone, Wyo., on practice march with Troop E, 5th Cavalry.

Risdon, H. T., D. S., reported for duty at Fort Miley, Cal.

Heterick, R. H., M. R. C., left Fort Oglethorpe, Ga., en route to Key West, Barracks, Fla., on detached duty.

Changes for the week ended Sept. 3, 1910:

Hallett, Harley J., M. R. C., ordered to proceed to Fort Hamilton, N. Y., Aug. 29, for temporary duty.

Hill, Eben C., lieut., ordered to proceed to Pine Camp, N. Y., for duty.

Marietta, S. U., M. R. C., left Fort Des Moines, Iowa, en route to Camp at Fort Benjamin Harrison, Ind.

Baker, Frank C., major, left Fort Moultrie, S. C., en route to Camp at Fort Benjamin Harrison, Ind.

O'Connor, R. P., major, left Fort Screven, Ga., en route to Camp at Fort Benjamin Harrison, Ind.

Shaw, Henry A., major, granted 20 days' leave of absence.

Nichols, Henry J., lieut., on expiration of present leave of absence, will repair from duty in New York City to this city and report in person to Colonel Louis A. LaGarde, Medical Corps, president of the Army Medical School, for duty as assistant instructor in clinical microscopy and bacteriology at that school.

Wolfe, Edwin P., major, ordered to proceed from New York City to Philadelphia, on business connected with the Medical Department of the Army. Major Wolfe will also proceed from New York City to Middletown, Conn., on business connected with the Medical Department of the Army.

Howell, Park, capt., granted leave of absence for 2 months.

Norman, Seaton, M. R. C., ordered to proceed to Fort Huachuca, Ariz., for temporary duty.

Darnall, M. H., M. R. C., left Fort Washington, Md., on 10 days' leave of absence.

Long, Charles J., D. S., granted 2 months' leave of absence.

Kierulff, H. Newton, M. R. C., relieved from duty at Fort Missoula, Mont., and ordered to proceed to his home for further orders. Same date granted leave of absence for 1 month and 4 days.

Birmingham, Henry P., lieut.-col., leave of absence extended 20 days.

Mabee, James I., capt., left Jefferson Barracks, Mo., on 8 days' leave of absence.

Long, Charles J., D. S., reports for temporary duty at Madison Barracks, N. Y., from Pine Camp, N. Y.

McCaw, W. D., lieut.-col., left Washington, D. C., on 30 days' leave of absence.

Ireland, M. W., major, left Washington, D. C., on 18 days' leave of absence.

Lynch, Charles, major; Baily, Howard H., capt., and DeLaney, M. A., capt., detailed to act as judges of the Inter-Coal Co. competition in the application of first aid to the injured, to be held Sept. 17, 1910, at Scranton, Pa.

Bundesen, H. N., M. R. C., granted 15 days' leave of absence.

LaGarde, Louis A., col.; McCaw, Walter D., lieut.-col., and Winter, Francis A., major, appointed members of a board to meet in this city, Sept. 20, 1910, for the examination of such applicants for appointment in the Medical Corps as may be invited to appear before the board.

Talbott, E. M., capt., on return to Fort D. A. Russell, Wyo., will proceed to Fort Riley, Kan., for duty at camp of instruction in command of Co. A, Hospital Corps.

Tenney, Elmer S., M. R. C., relieved from duty at Fort Strong, Mass., and ordered to proceed to the Philippine Islands for duty on the transport sailing from San Francisco about Nov. 5, 1910.

Slater, Ernest F., M. R. C., granted 30 days' leave of absence.

Medical Corps, U. S. Navy

Changes for the week ended Aug. 27, 1910:

Fitts, H. R., medical inspector, ordered to the Naval Medical School Hospital, Washington, D. C., for treatment.

Downey, J. O., P. A. surgeon, commissioned passed assistant surgeon from Aug. 1, 1909.

Straeten, R. J., P. A. surgeon, commissioned passed assistant surgeon from Dec. 20, 1909.

Steadman, W. G., Jr.; Donelson, M., and Baker, M. C., P. A. surgeons, commissioned passed assistant surgeons from July 12, 1910.

Leys, J. F., surgeon, ordered to temporary duty in the bureau of medicine and surgery, Navy Department.

Higgins, M. E., asst.-surgeon, ordered to temporary duty at the Naval Medical School Hospital, Washington, D. C.

Dodge, A. E., asst.-surgeon, granted sick leave for 3 months when discharged from treatment at the Naval Hospital, Mare Island, Cal.

Cohn, I. F., P. A. surgeon, commissioned passed assistant surgeon from Feb. 28, 1910.

Fitts, H. R., medical inspector, ordered home to wait orders, when discharged from treatment at the naval medical hospital school, Washington, D. C.

Richardson, R. R., surgeon, ordered to duty at the Navy Yard, Portsmouth, N. H., and to additional duty in connection with the *Southery*, the *Topeka*, and the Naval Hospital at that place.

Valz, E. V., P. A. surgeon, detached from duty at the Navy Yard, Portsmouth, N. H., and ordered to duty at the Naval Prison at that place.

Iden, J. F., surgeon, commissioned surgeon from Oct. 31, 1909.

Seaman, W., surgeon, commissioned surgeon from Nov. 20, 1909.

Richardson, R. R., surgeon, commissioned surgeon, from Dec. 13, 1909.

Asserson, F. A., surgeon, commissioned surgeon, from Jan. 30, 1910.

Dunn, H. A., surgeon, commissioned surgeon from Feb. 5, 1910.

Stuart, A., surgeon, commissioned surgeon from Feb. 19, 1910.

Step, J., surgeon, commissioned surgeon from March 5, 1910.

Lee, A. E., P. A. surgeon, commissioned passed assistant surgeon from May 9, 1909.

The following-named acting assistant surgeons are detached from duty at the places indicated and ordered to Washington, D. C., for examination for appointment as assistant surgeons: O. J. Miller,

Naval Hospital, Washington, D. C.; W. H. Halsey, Naval Hospital, Norfolk, Va.; J. J. Lynch, Naval Hospital, Boston; E. E. Woodland, Naval Hospital, Philadelphia; J. V. Howard, Naval Hospital, Philadelphia; O. O. Hightower, Naval Hospital, New York; E. P. Halton, Naval Training Station, Newport, R. I.; A. L. Jacoby, Naval Hospital, Newport, R. I., and W. E. Eaton, Naval Hospital, Boston.

Wilson, G. B., surgeon, ordered to duty on board the *New York* as fleet surgeon of the Asiatic Fleet.

Huff, E. P., P. A. surgeon, detached from the *Charleston* and ordered to the *New York*.

U. S. Public Health and Marine-Hospital Service

Changes for the week ended Aug. 31, 1910:

Gassaway, Jas. M., surgeon, granted 1 month leave of absence from Aug. 7, 1910, on account of sickness.

Gardner, C. H., surgeon, granted 1 month leave of absence from Sept. 1, 1910.

Anderson, John F., P. A. surgeon, directed to proceed to Chicago and Milwaukee, on special temporary duty. Detailed to attend the annual meeting of the American Public Health Association, to be held in Milwaukee, Wis., Sept. 5-9, 1910.

King, W. W., P. A. surgeon, relieved from duty at Ellis Island, N. Y., and directed to proceed to Naples, Italy, and report to Surgeon H. D. Geddings, for duty.

Moore, Dunlop, P. A. surgeon, leave of absence for 14 days from Aug. 10, 1910, amended to read 10 days from Aug. 18, 1910.

McClintic, F. B., P. A. surgeon, granted 6 days, leave of absence from Aug. 22, 1910.

Goldberger, Jos., P. A. surgeon, directed to proceed to Reedy Quarantine Station on special temporary duty.

Vogel, Chas. W., P. A. surgeon, leave of absence for 15 days from Aug. 10, 1910, amended to read 12 days.

McLaughlin, A. J., P. A. surgeon, directed to report to Surgeon Rupert Blue, for duty, Aug. 13, 1910.

Stimson, A. M., P. A. surgeon, granted 14 days' leave of absence from Sept. 6, 1910.

Foster, A. D., P. A. surgeon, granted 10 days' leave of absence en route to station, granted 30 days' leave of absence from Aug. 30, 1910.

Roberts, Norman, P. A. surgeon, granted 12 days' leave of absence from Sept. 6, 1910.

Frost, W. H., P. A. surgeon, detailed to attend the meeting of the State Board of Health at Des Moines, Iowa, Aug. 17, 1910. Directed to proceed to Britt, Iowa, on special temporary duty.

Grimm, R. M., asst.-surgeon, granted 4 days' leave of absence from Sept. 1, 1910.

Knight, Carlisle P., asst.-surgeon, relieved from duty at Buffalo, N. Y., and directed to proceed to Ellis Island, N. Y., and report to the Chief Medical Officer for duty.

Boyd, Frank, acting asst.-surgeon, granted 20 days' extension leave of absence from May 27, 1910, on account of sickness.

McDaniel, S. E., acting asst.-surgeon, granted 5 days' leave of absence from Aug. 14, 1910, under paragraph 210, Service Regulations.

McGinnis, R. H., acting asst.-surgeon, granted 10 days' leave of absence from Sept. 11, 1910.

Robertson, Herman, acting asst.-surgeon, granted 6 months' leave of absence without pay from Sept. 1, 1910.

Rodman, J. C., acting asst.-surgeon, granted 7 days' leave of absence from Aug. 30, 1910.

Roselle, M. M., acting asst.-surgeon, granted 5 days' leave of absence from June 27, 1910, under paragraph 210, Service Regulations.

Rush, John O., acting asst.-surgeon, leave of absence granted Aug. 6, 1910, amended to read 14 days from Aug. 13, 1910, with pay, and 28 days from Aug. 27, 1910, without pay.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

The Opposition to a National Department of Health

Good Health, under the heading "The Animus Behind the Opposition to the National Department of Health," editorially comments:

"There is abundant reason for believing that the 'patent-medicine' interests are a prime mover in the active opposition which has recently appeared to Senator Owen's Bill providing for the establishment of a national department of health. This would be naturally expected, since the 'patent-medicine' man is the only one of the numerous sorts of medical fakirs likely to come in any way within the province of the proposed board. Magnetic healers, Christian scientists, faith healers, clairvoyant doctors, hypnotists, palmists and fortune tellers will be allowed to ply their arts on the gullible public without molestation by the national department of health. Neither can it possibly come within the province of the proposed department to interfere in any way with practitioners of medicine of any of the recognized schools, whether regular, so-called, or irregular. The field of the new board will be prophylactics; therapeutics, or the treatment of disease is a matter which by no stretch of the imagination could be considered a proper subject for regulation or even investigation by the national department of health.

"But the 'patent-medicine' man is a bird of another feather. He bottles up all sorts of stuff, often deadly poisons, and puts on labels claiming miraculous qualities for his pernicious decoctions. Investigation of his wares and publicity in relation to their properties are the most deadly blows which can be aimed at his business. No doubt, one of the first duties of a national department of health would be to investigate the doings of the 'patent-medicine' vendors. It is not at all surprising that they see in Senator Owen's bill the handwriting on the wall which spells calamity and disaster for their nefarious traffic."

After stating that the "patent-medicine" and other interests opposed to national health legislation have been spending from $10,000 to $25,000 a day in newspaper advertising for the purpose of misleading the public, and quoting a letter from Prof. Irving Fisher on this point, the editorial concludes:

"It is noticeable that among the newspapers which have been the most active in opposing Senator Owen's bill are those which in time past, through the efforts of medical men, have been convicted and punished for aiding abortionists and others in their criminal work through the agency of their advertising columns. Christian scientists, osteopaths, and the partisans of other peculiar medical or antimedical beliefs, have nothing whatever to fear on the proposed national board of health, for it will not concern itself in the least with questions of this sort."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

First Month—First Weekly Meeting

ETIOLOGY

HISTORICAL: Many organisms "established" as cause. Hallier, Lustgarten, Seigel, Van Niessen and many others. Schaudinn and Hoffman.

TREPONEMA PALLIDUM: Size, length, shape, flagellæ, motility. Methods of staining, identification. Found in all syphilitic lesions, in acquired and congenital cases. Transmission to apes and monkeys. Effect of antisyphilitic treatment.

CONTAGION AND IMMUNITY

MODES OF INFECTION: 1. Sexual contact. 2. Accidental infection, extra-genital chancres. 3. Hereditary transmission; (a) sperm inheritance, (b) germ inheritance, (c) placental transmission.

NATURE OF VIRUS: Occurrence in blood, secretions and excretions of body; in primary, secondary and tertiary lesions.

IMMUNITY: Acquired immunity, Profeta's immunity, Colles' immunity.

ACQUIRED SYPHILIS

CLINICAL HISTORY

PRIMARY STAGE: Incubation; chancre, typical chancre, varieties of chancre, genital and extragenital chancres, course and complications. Lymphatic involvement.

SECONDARY STAGE: Constitutional disturbances, fever, general lymphatic involvement, arthritis, blood changes, alopecia, ocular symptoms, changes in nervous symptoms. Syphilides, erythematous, papular, pustular, tuberculous, pigmented, varieties of each. Lesions of mucous membranes.

TERTIARY STAGE: Effect of treatment on tertiarism. Relation to primary and secondary symptoms. Tertiary syphilides, tuberculous, gummatous and ulcerative. Gummata, visceral lesions. Amyloid degeneration.

QUATERNARY STAGE: Parasyphilis. Tabes, dementia paralytica, nervous affections, pigmented syphilides, affections of tongue.

State Boards of Registration

COMING EXAMINATIONS

IOWA: Capitol Building, Des Moines, September 12-14. Sec., Dr. Guilford H. Sumner, State House.

MASSACHUSETTS: State House, Boston, September 13-15. Sec., Dr. Edwin B. Harvey.

MISSOURI: Capitol Building, Jefferson City, September 20-22. Sec., Dr. Frank B. Hiller.

NEW YORK: Albany, September 27-30. Chief of Examinations Division, Dr. Charles F. Wheelock.

Ohio June Report

Dr. George H. Matson, secretary of the Ohio State Medical Board, reports the written examination held at Columbus, June 13-15, 1910. The number of subjects examined in was 12; total number of questions asked, 95; percentage required to pass, 75. The total number of candidates examined was 151 of whom 147 passed including 13 osteopaths and 4 failed, including one osteopath. Thirty-eight candidates have been licensed through reciprocity since Jan. 1, 1910. The following colleges were represented:

PASSED

College.	Year Grad.	Per Cent.
Rush Medical College	(1910)	87.5
Harvard Medical School	(1907)	82.2
Starling-Ohio Medical College, (1910) 76.1, 76.1, 78, 78.1, 78.4, 80, 80.4, 80.9, 81.1, 81.1, 81.3, 81.4, 81.4, 81.5, 82.2, 82.9, 83.4, 83.6, 83.6, 84.2, 84.7, 84.9, 85.2, 85.6, 85.8, 86, 86, 86, 86.6, 87.2, 87.5, 87.6, 88, 88.1, 88.2, 90.2, 90.4, 90.6, 90.8, 91, 91.4.		
Western Reserve University, (1910) 79.9, 81.2, 81.4, 81.4, 83, 84, 84.5, 84.6, 85.9, 86.1, 86.5, 86.5, 86.9, 87, 87.5, 87.6, 88.2, 88.7, 90.4, 92.		
Ohio-Miami Medical College, (1910) 78, 80.2, 83, 83.7, 84.5, 85.7, 86.7, 87.1, 87.4, 87.5, 87.7, 88.5, 91.1, 91.1.		
Medical College of Ohio	(1903)	75.4
Pulte Medical College	(1910) 83.8,	88.2, 89.4
Eclectic Medical College, Cincinnati, (1909) 73.1; (1910) 79.7, 81.4, 84.4, 84.5, 85.1, 86.7.		
Starling Medical College	(1898)	80.1
Cleveland College of Physicians and Surgeons, (1910) 82.4, 83.3, 83.6, 84.1, 84.5, 84.6, 85.4, 85.7, 85.7, 86.4, 86.6, 86.6, 88.3, 88.4, 88.8, 89.5, 91.7 92.1.		
Toledo Medical College, (1910) 80.2, 80.4, 81.7, 83.2, 84.7, 86.4, 90, 90.9, 90.9.		
Miami Medical College	(1909)	80.8
Cleveland Homeopathic Medical College, (1909) 89; (1910) 76.2, 81, 85.2.		
University of Pennsylvania	(1909) 89.1, 92.8; (1910)	82.9
Jefferson Medical College	(1901) 88.7; (1909)	85.4, 92.3
Hahnemann Medical College and Hospital, Philadelphia	(1894) 86.4; (1910)	83.
Meharry Medical College	(1910)	77.
Queen's University, Kingston, Ontario	(1907)	85.6
University of Toronto, Ontario	(1909)	87.1
University of Palermo, Italy	(1902)	76.

FAILED

College.		
Kentucky School of Medicine	(1903)	*
Starling-Ohio Medical College	(1906)	*
Cleveland Homeopathic Medical College	(1910)	*

LICENSED THROUGH RECIPROCITY SINCE JANUARY 1, 1910

College.	Year Grad.	Reciprocity with.
Howard University, Washington, D. C.	(1906)	Dist. Colum.
Rush Medical College	(1909)	Illinois
Hahnemann Medical College and Hospital, Chicago	(1907) (1908) (1909)	Illinois
Northwestern University Medical School	(1901)	Illinois
Chicago College of Medicine and Surgery	(1910)	Illinois
Jenner Medical College	(1908)	Illinois
Indiana Medical College	(1906) (2, 1907)	Indiana
Physio-Medical College of Indiana	(1906)	Texas
Medical College of Indiana	(1888)	Indiana
Kentucky School of Medicine	(1883)	Illinois
Maryland Medical College	(1901)	West Virginia
College of Physicians and Surgeons, Baltimore.	(1887) (1909)	Maryland; (1909) West Virginia
Baltimore University	(1899)	Maine
University of Michigan, Dept. of Med. and Surg.	(1907) (3, 1909)	Michigan
Detroit Homeopathic College	(1906)	Michigan
Marion-Sims College of Medicine	(1899)	West Virginia
St. Louis University	(1906)	Illinois
Columbia University, College of Physicians and Surgeons	(1895)	New York
Eclectic Medical College of New York	(1896)	New York
University and Bellevue Hospital Medical College	(1899)	Indiana
Leonard School of Medicine	(1908)	Maryland
Ohio Medical University	(1903)	Indiana
Pulte Medical College	(1897)	Indiana
Medical College of Ohio	(1889)	Indiana
University of Pennsylvania	(1908)	West Virginia
Jefferson Medical College	(1906) (1907)	New York
Tennessee Medical College	(1903)	Michigan
University of Virginia	(1904)	Maine

* Percentage not given.

The following questions were asked:

ANATOMY

1. Give the origin, course and distribution of the brachial artery. 2. What are the relations of the pneumogastric nerve in the neck? 3. How many bones in a lower extremity? Name them. 4. Name the cerebral lobes and fissures. 5. Give origin, insertion and action of the triceps muscle. 6. Name the parts of the digestive system. 7. Name the muscles of mastication. 8. Give the blood supply of the stomach. 9. What is the cauda equina, foramen of Winslow, optic thalamus, urachus, canal of Nuck? 10. What difference in the structure of voluntary and involuntary muscular tissue?

OBSTETRICS AND DISEASES OF WOMEN

1. What changes take place in the blood during pregnancy? 2. What purpose do these changes conserve? 3. Give briefly some of the theories which explain how, following labor, the placenta separates from the uterine wall. 4. Give the data on which at term a diagnosis of first position of the vertex may be made without making a vaginal examination. 5. Name some of the causes which predispose to hemorrhage after labor. 6. You are called at the outset of labor and find a brow presenting; what do you advise? 7. Differentiate between a tubal pregnancy and an acute salpingitis. 8. Name some of the causes and give the treatment of acute cystitis. 9. How would you treat a hematoma of the scalp in the new born? 10. What have you to say concerning chronic endometritis as a cause of sterility; give its treatment.

PATHOLOGY

1. Name the different kinds of necrosis. 2. Describe the pathology of pyosalpinx. 3 Describe the microscopic appearance of a tubercle. 4. Name the different kinds of aneurism. 5. Define pyemia, septicemia, toxemia, and bacteriemia.

DERMATOLOGY, SYPHILOLOGY, AND DISEASES OF THE EYE, EAR, NOSE AND THROAT

1. Describe ichthyosis and its varieties. 2. How does chronic eczema of the palms of the hands appear and how is it treated? 3. Describe lichen planus (Wilson), its varieties and mention the treatment. 4. Describe macular syphilids, or syphilitic roseola. 5. When should the treatment of syphilis be commenced and how should it be conducted? 6. Define hypermetropia, how does it occur and how is it corrected by lenses. 7. Describe catarrhal conjunctivitis. How is it treated? 8. What is atrophic rhinitis? How is it cured? 9. Describe chronic catarrhal inflammation of the middle ear. 10. Describe perichondritis of the laryngeal cartilages.

DIAGNOSIS

1. How are functional or hemic murmurs discriminated from organic murmurs? 2. Aphasia in its varieties. What central lesions indicate? 3. Determine diagnostic value of laryngeal paralysis. 4. What diagnostic significance is derived from a gross examination of the sputum? 5. What diagnostic significance has coma.

PRACTICE OF MEDICINE

1. How would you diagnose hereditary syphilis in a child? 2. What are the causes and symptoms of multiple neuritis? 3. Name the symptoms or physical signs of locomotor ataxia. 4. What is apoplexy? Give its etiology and state briefly the symptoms. 5. What is the significance of the Wassermann reaction? How is it obtained? 6. Name conditions with which uremia may be confounded. 7. Give the symptoms and physical signs of thoracic aneurism. 8. How would you treat lobar pneumonia? 9. Give treatment of epidemic and endemic influenza and give sequelæ. 10. How would you diagnose and treat cholera morbus?

SURGERY

1. Give the diagnostic signs of a typical case of pericardial effusion. What is the treatment? 2. Give the treatment of a fractured costal cartilage. 3. Diagnose a case of gall-stones. How treat? 4. Differentiate extra-uterine pregnancy, ovarian cyst, and peritoneal effusion. 5. Diagnose anterior luxation of the hip joint. How correct? 6. Diagnose calculus of bladder. How treat? 7. Diagnose and give the significance of two kinds of chancre. How treat. 8. How would you treat a case of gonorrheal cystitis? 9. What important structures may be wounded in a vaginal hysterotomy? 10. Differentiate pregnancy and intra-uterine fibroid.

CHEMISTRY

1. How does oxygen give strength to the body? 2. Describe the element that is a part of all acid compounds. 3. What is glycogen, where found, and from what derived? 4. What elements belong to the nitrogen group? Give the properties and uses of the one you consider the most important. 5. What is the amount of CO_2 in the atmosphere and why does it not increase? 6. In what part of the body and in what forms is phosphorus found? 7. Name the most important elements entering into the composition of the human body. 8. Give the principal constituents of milk. How would you detect water adulteration in milk? 9. What is a poison? 10. Name a poison which has a local and a remote effect and give its antidote.

PHYSIOLOGY

1. Describe a cell. How are cells propagated? 2. What are the elementary tissues and how are their cells classified? 3. What constitutes the cerebrospinal nervous system? 4. What results are observed when the seventh cranial nerve is paralyzed? 5. What is the relation between blood pressure and the pulse rate? 6. What

changes take place in the blood during respiration? Where and how is it accomplished? 7. In a general way, of what does digestion consist? 8. What are enzymes and how do they act? 9. What is the function of the pancreatic juice? 10. What are the solid constituents of the urine and what conditions may change their quantity in health?

MATERIA MEDICA AND THERAPEUTICS (REGULAR)

1. Explain the action of heat and cold as therapeutic agents and mention indications for each. 2. Under what conditions would you advise arterial transfusion of blood? What advantage has the process over hypodermoclysis? What disadvantage? 3. Given a case of diphtheria in a child five years old. Describe in detail your treatment and the effect expected of the remedy. 4. When should silver nitrate and when should the organic salts of silver be used in the treatment of ophthalmia neonatorum? 5. Give some indications for the use of thyroid gland. What untoward effects are produced by over use? 6. Give some indications for the use of arsenic. In what forms may it be used? Give dose of each and symptoms resulting from its excessive use. 7. Outline a diet for a patient suffering with diabetes mellitus. Also for one suffering with chronic interstitial nephritis. 8. What would you use to overcome pleurisy with effusion? Explain action. 9. Explain the physiologic action of the salines. 10. For what conditions would you advise *x*-ray treatment? How long should the patient be exposed at a single sitting? When would you advise him to return for treatment if a series of treatments were advised?

MATERIA MEDICA AND THERAPEUTICS (HOMEOPATHIC)

1. Explain the action of heat and cold as therapeutic agents and mention indications for each. 2. Name the salient symptoms that would lead you to prescribe opium. In what doses would you prescribe it? Is a careful history of the case essential? How many alkaloids has opium? Name five. 3. In prescribing—what is the only true scientific basis for the selection of a drug? 4. Given—swelling and suppuration of glands; exostosis, curvature, caries, pale bloated face, ulceration of skin, swelling of nose and upper lip, scabs on hairy scalp, otorrhea—cancerous affection. Prescribe. 5. Give some indications for the use of thyroid gland. What untoward effects are produced by over use? 6. Diagnose dysentery and give the three most likely indicated remedies. 7. Given—a woman extremely pale, not emaciated, pulse rapid, 160, almost imperceptible at wrist, slow of comprehension, difficult respiration, coldness of extremities, finger nails blue, excessive hemorrhage from uterus, history of pregnancy negative, single—give the homeopathically indicated remedy. What would you do? 8. How would you treat a case of membranous croup? What germ is present? Name three remedial agencies that will probably be indicated during progress? 9. Differentiate calcarea carb and silicea. Rhus tox and lachesis. 10. For what conditions would you advise *x*-ray treatment? How long should the patient be exposed at a single sitting? When would you advise him to return for treatment if a series of treatments were advised?

MATERIA MEDICA AND THERAPEUTICS (ECLECTIC)

1. Explain the action of heat and cold as therapeutic agents and mention indications for each. 2. In what case of agents would you place passiflora? How would you prescribe it? What indications would guide you? 3. What are the properties of gelsemium? What are its indications and in what diseases is it useful? 4. Give dose and indications for use of apocynum. Name some conditions in which you would prescribe it. 5. Give some indications for the use of thyroid gland. What untoward effects are produced by over use? 6. Give indications for bryonia and diseases in which it is useful. 7. What uses would you make of phenol (carbolic acid) in practice? How use it? 8. Chionanthus—In what conditions is this agent useful? What are indications for it? 9. What is the formula of Dover's powder? What are its properties and uses? 10. For what conditions would you advise *x*-ray treatment? How long should the patient be exposed at a single sitting? When would you advise him to return for treatment if a series of treatments were advised?

Pennsylvania June Reports

The Medical Council of Pennsylvania reports the written examinations held at Philadelphia, Pittsburg and Harrisburg, June 21-24, 1910. The number of subjects examined in was 7; percentage required to pass, 75.

At the examination held by the State Medical Society of Pennsylvania, the total number of candidates examined was 347, of whom 308 passed and 39 failed. The following colleges were represented:

College.	PASSED. Year.	Total No. Examined.
Illinois Medical College	(1909)	1
Reliance Medical College	(1909)	1
Chicago College of Medicine and Surgery	(1910)	4
College of Physicians and Surgeons, Baltimore	(1908) (7, 1910)	8
University of Maryland	(1908) (4, 1910)	5
Johns Hopkins University	(1908) (1909) (4, 1910)	6
Baltimore Medical College	(1910)	3
Maryland Medical College	(1910)	1
University Medical College, Kansas City	(1910)	1
Columbia University, College of Physicians and Surgeons	(1910)	1
Cleveland College of Physicians and Surgeons	(1910)	1
Starling-Ohio Medical College	(1910)	1
Surgeons	(1907) (1909)	2
Jefferson Medical College	(1886) (2, 1908) (2, 1909) (43, 1910)	48
University of Pennsylvania	(1900) (1905) (1908) (4, 1909) (73, 1910)	80
University of Pittsburg	(1908) (4, 1909) (50, 1910)	55
Woman's Medical College of Pennsylvania	(2, 1908) (10, 1910)	12
Medico-Chirurgical College, Philadelphia	(1902) (46, 1910)	47
Temple University	(1910)	27
University of Nashville	(1907) (1909)	2
Medical College of Virginia	(1910)	1
University of Edinburgh, Scotland	(1909)	1
University Lausanna, Switzerland	(1903)	1

College.	FAILED. Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1907)	63.1, 68.
Chicago College of Medicine and Surgery	(1910)	71.4
Atlanta School of Medicine	(1910)	65.2
Kentucky University	(1906)	64.3
College of Physicians and Surgeons, Baltimore	(1910)	66.5
Maryland Medical College	(1910) 40.6, 58.7, 61.7, 63.4, 66.	
University of Maryland	(1909) 65.1; (1910) 70.5, 70.8	
Baltimore University	(1905)	60.7
Baltimore Medical College	(1910) 66.6, 68.2, 69.2, 71.1	
Ohio Medical University	(1905)	64.1
Medico-Chirurgical College, Philadelphia	(1910) 57.8, 61.7, 66.6, 67.1, 70.2, 71.1, 71.8	
Temple University	(1910) 71.1, 71.5, 72.7	
University of Pittsburg	(1909) 70.2; (1910) 61.5, 68.9, 70.1, 70.3, 70.3.	
University of Pennsylvania	(1910)	65.8
Meharry Medical College	(1902)	51.5
University of Toronto, Ontario	(1905)	70.2

At the examination held by the Homeopathic Medical Society, the total number of candidates examined was 34 of whom 29 passed and 5 failed. The following colleges were represented:

College.	PASSED. Year Grad.	Total No. Examined.
Atlantic Medical College	(1910)	2
University of Michigan, Homeopathic College	(1909)	1
Pulte Medical College	(1910)	1
Hahnemann Medical College and Hospital, Philadelphia	(1908) (2, 1909) (22, 1910)	25

College.	FAILED. Year Grad.	Per Cent.
Hahnemann Medical College and Hospital, Chicago	(1909)	63.5
Hahnemann Medical College and Hospital, Philadelphia	(1909) 61.8; (1910) 62.4, 65.2, 68.8	

At the examination held by the Eclectic Medical Society, the total number of candidates examined was 20 all of whom passed. The following colleges were represented:

College.	PASSED. Year Grad.	Total No. Examined.
Georgia College of Eclectic Medicine and Surgery	(1910)	1
Bennet Medical College	(1910)	3
University of Louisville	(1910)	1
Atlantic Medical College	(1908) (2, 1910)	3
Maryland Medical College	(1905) (1906) (1909) (3, 1910)	6
Baltimore University	(1899) (1904)	2
Baltimore Medical College	(1910)	1
Eclectic Medical College, Cincinnati	(1910)	2
Medico-Chirurgical College, Philadelphia	(1910)	1

Medicolegal

Privilege and Waiver of Same Extend to Statements Made by Physicians

The Supreme Court of Nebraska says, in Bryant vs. Modern Woodmen of America (125 N. W. R., 621), that the insured in his application waived for himself and his beneficiaries "the privilege or benefits of any and all laws which are now or may be hereafter in force making incompetent the testimony of or disqualifying any physician from testifying concerning any information obtained by him in a professional capacity." When, however, the testimony of a physician who had previously amputated the man's arm above the wrist was offered to show that he told the man at that time that he was suffering from tuberculosis of the wrist, the evidence was excluded on the ground that the communication from the physician to the patient was a privileged one, and had not been waived. But holding that it had not been waived was error.

A statement of fact or opinion expressed by a physician to a patient in the course of a professional visit, based on a

relation of facts by the patient, or on a physical examination by the physician, is as much a privileged communication as the facts or statements on which it is based. It is a part of the same transaction, and, if the statute excludes the facts disclosed by the patient, it must equally exclude the statements and the opinions, expressed or unexpressed, of the physician, if its protection is to be of any avail. If the physician is permitted to disclose what he said to the patient, the patient's privilege to prevent the disclosure of a communication by him to the physician or the result of an examination would be of little use; for by indirection a disclosure of the nature of the disease would in many instances be made.

A waiver of the privilege or benefit of the protecting statute is a waiver of the disqualification as to the whole transaction, and not as to a part of it only. And, in view of the statements in the application, if the evidence should prove that the insured had consulted reputable physicians as to his condition, and that he had been told by them that he was suffering from such an insidious and dangerous disease as tuberculosis at a time so near the time of making the application as to rebut and repel the idea of forgetfulness or good faith on his part, the concealment of such a fact, so material to the risk, and one that if known his application would have been rejected, would render void the contract. The offered evidence would tend to show notice and knowledge by the applicant of the actual facts as to his condition before he made the representations in his application. It was material to the issues, and since the privilege was waived, was admissible.

Limit to Responsibility of Employer Selecting Surgeon—Skill and Learning Required—Sufficiency of Fluoroscopic X-Ray Examination Without Making Photograph

The Supreme Court of Washington holds, in Wells vs. Ferry-Baker Lumber Co. (107 Pac. R., 869), that where an employer withholds $1 per month from the wages of its employees, and pays same to a physician or surgeon selected by it, the implied duty of the employer is to select a competent physician and surgeon, and when it does so it discharges its full legal obligation. There being no express contract between the employer and its employees, and no profit resulting to the employer, it is a noncompensated or gratuitous trustee, and is liable only for a failure to use reasonable care in the selection of a competent surgeon.

A physician and surgeon by taking charge of a case impliedly represents that he possesses, and the law imposes on him the duty of possessing, reasonable skill and learning. He is not liable for mistakes if he uses the method recognized and approved by those reasonably skilled in the profession.

The plaintiff in this case, an employee of the defendant company, had a fall in which the bones of each wrist were broken, but alleged that the surgeon selected by the company negligently treated the left one for a sprain. The evidence disclosed that the surgeon at first expressed the opinion that both arms were broken, but said that he would examine them with the *x*-ray; that he did so, and then said that there was a fracture of the right wrist, but that the left was sprained; that he so treated them; that the right wrist was restored to its normal condition; that, on complaint from time to time that the left wrist was painful and not improving, he re-examined it with the *x*-ray at least three times; that each examination confirmed his later opinion that it was sprained and not broken; that he said to the plaintiff whenever he complained of the pain that a sprain was "worse" than a break. The *x*-ray examinations were what were termed "fluoroscopic," to make which, as it was explained, "You use an *x*-ray, but instead of taking a picture you have an apparatus that you hold in the hand and look through the arm." The only negligence claimed was that the attending surgeon failed to take an *x*-ray photograph so as to make certain his diagnosis.

The conclusion, the Supreme Court says, is irresistible, that the surgeon used reasonable diligence and skill, and that to permit a recovery of damages would establish the rule that a surgeon is liable for a failure to use extraordinary care and diligence in both diagnosis and treatment. The surgeon who testified that an *x*-ray photograph should have been taken stated that he had practiced his profession for a period of 20 years, and that he had never had an *x*-ray machine. He examined the plaintiff for the first time about 17 months after the injury, and took *x*-ray photographs of the left wrist which he said showed a fracture which in his opinion a like investigation in the beginning would have revealed. Another surgeon said that the *x*-ray was used only as a matter of extreme care. Viewing the testimony in the light most favorable to the plaintiff, it clearly showed that the attending surgeon used reasonable care, skill and diligence in diagnosis and treatment. A verdict for the plaintiff could not be permitted to stand, and a judgment resting on it would be set aside.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

August 25

1 Report of the Scoliosis Department of the Children's Hospital, Boston. J. W. Sever, Boston.
2 Historical Notice of the Operation of Cesarean Section from the First Operation to the Middle of the Eighteenth Century. C. G. Cumston, Boston.
3 *Lactic Acid Bacteria; What They Are and What They Are Supposed to Do. A. I. Kendall, Boston.
4 Fracture of the Lower Epiphysis of the Tibia. A. O'Reilly, St. Louis.
5 *Hygienic and Dietetic Treatment of Delicate Children by the Class Method. W. R. P. Emerson, Boston.
6 Presence of Air in the Blood Vessels in Medicolegal Autopsies. G. L. West, Newton, Mass.

3 and 5. These articles also appear in the *Archives of Pediatrics*, August, 1910. For abstract of Dr. Emerson's paper, see abstract No. 57.

Medical Record, New York

August 27

7 Postoperative History of Eighteen Cases of Magnetic Foreign Bodies Removed from the Eye by the Haab or Giant Magnet. C. S. Bull, New York.
8 Importance of Early Recognition of Cancer. I. Levin, New York.
9 *Adaptation of the Human Saliva to Diet. L. B. Mendel, J. Chapman and A. F. Blood, New Haven, Conn.
10 *Chemistry of the Urine in Pulmonary Tuberculosis. R. W. King, Las Animas, Colo.
11 Simple Extraction of Cataract. J. S. Fernandez, Havana.
12 The Car Barn Bandits. A Study in Degeneracy. G. F. Lydston, Chicago.
13 Case of Sarcoma of the Adrenal Gland. J. A. Jackson, Indianapolis.
14 Anchoring the Kidney for Dislocation or Displacement. E. N. Lieil, Jacksonville, Fla.
15 Two Cases of Actinomycosis. H. Jones, Circleville, O.

9. **Adaptation of Human Saliva to Diet.**—Mendel and his assistants detail experiments made by feeding persons with starchy substances to see whether there is any ground for the belief that diet will change the saliva, inducing adaptation to the diet furnished. There are a large number of variable factors aside from diet that affect the activity of the saliva. The author made use of Wohlgemuth's method of testing the concentration of amylose in the saliva. Individuals were treated for a period of from 7 to 10 days with a mixed diet; then without any starches for a second period, and later with carbohydrates alone. The results obtained would go to show that there is no adaptation of the saliva to the diet selected. In two vegetarians it was found that the saliva was no more active than in other normal individuals.

10. **Chemistry of Urine in Pulmonary Tuberculosis.**—It is claimed by King, who has done some original work in this line, that the urine would show wasting and an imperfect interchange of gases due to diseased lung tissue. Wasting should be shown by the urea excretion, and imperfect interchange by the elimination of the purin bodies. He tabulates the results in 52 cases, 43 of which represented various stages in patients who were able to be out of bed, the others being

bed cases. If the patient is near a fatal termination the urine will measure between 600 and 800 cc.; it will have a decided red color from pigments of blood cells that are being destroyed; it will show a urea reaction that is more than 4.00, and the urinometer reading will be between 20 and 25. Specific gravity undergoes little change. Uric acid is not increased to any great degree. Tuberculosis produces a relative increase in the principal products of nitrogenous metabolism. If the volume of urine expressed in hundred c.c. be multiplied by the urinometer reading, we shall get a so-called V-G factor; if this be low it indicates that the patient is not taking sufficient nourishment to sustain the body in a state of health. The author introduces various new reactions that are explained in connection with the tables.

New York Medical Journal

August 27

16 Oral Prophylaxis. L. A. Faught, Philadelphia.
17 *Hypothyroidism. R. L. Pitfield, Philadelphia.
18 *Critical Analysis of 180 Cases of Acute Intraperitoneal Infection. E. MacD. Stanton, Schenectady, N. Y.
19 "Celestial" Surgery. J. Knott, Dublin, Ireland.
20 The Use of the Association Tests in the Study of Certain Types of Insanity. E. Gillespie, Binghamton, N. Y.
21 Atony of the Stomach (concluded). J. W. Weinstein, New York.
22 Diphtheria Bacillus-carriers. W. G. Bissell, Buffalo.
23 *Anemic Ulcers of the Throat. A. G. Pohly, New York.

17. **Hyperthyroidism.**—Hyperthyroidism, says Pitfield, may be so mild as to cause a few pains and aches, or so severe as to render the victim a bedridden, neurasthenic invalid; ugly, perhaps, and miserable; and often a complete puzzle for the medical attendant. Not always is the patient myxedematous. He or she may be so far advanced in the disease that the atrophic form obtains with emaciation and cachexia, so extreme that no subcuticle tissue, save bones and muscles, remain. Or the disease may be so slight that almost no skin changes are apparent, as in the cases reported by Pitfield. In fact, the patient may be rather fair to look on and yet have so many nervous symptoms as to be miserably ill, and in the eyes of many doctors a nervous, rheumatic crank.

Pitfield has seen in all nine cases in private practice. One patient was so myxedematous that she and her family preferred that she should not appear in public places, because she attracted the attention of nearly everybody by her hippopotamus gait. Two other patients were merely fat looking with puffy faces and swollen eyelids; one was a cachectic, prematurely old and withered-looking woman invalided for years, in whom there was but little suggestion of myxedema; two were comely, handsome women, one 35 and the other 53 years of age; another a thin, nervous little woman, a familiar type, with many ills and no myxedema. All had several things in common. All had had children. All had joint pains that were called rheumatism. The fat ones were all thought to have nephritis, the thin ones nervous prostration. And all without exception had had a galaxy of doctors who had misdiagnosticated their ills.

Any woman approaching middle life or in the fourth decade, who has had a history of backache, an occipital headache, together with joint pains, dyspnea, asthenia, should be suspected of having hyperthyroidism, especially so if she has amenorrhea or had had it during the menstrual life. The treatment consists in the administration of thyroid extract.

18. **Peritoneal Infection.**—Analysis has convinced Stanton that the complete removal of the infection is the ideal procedure, and that removing the source of the infection and instituting a postoperative regime of peritoneal rest (Murphy's method) give almost ideal results in early cases of peritonitis. He failed to get good results, however, when he attempted to apply Murphy's method to patients with peritoneal infection of more than 40 hours' duration, though the most severe intermediate stage cases gave almost no worry at all when put on the Ochsner treatment. Once the peritoneum has become infected, Stanton believes that peritoneal rest is probably the most valuable single therapeutic means at command, and should be rigidly enforced whether one operates early or late.

23. **Anemic Ulcers of the Throat.**—Pohly believes that ulcers in the throat may be due to anemia or lowered vitality. He has seen three cases, all in young women. The ulcer is round, small, with scanty secretion. There was no history of either tuberculosis or syphilis and no swelling of the glands.

Lancet-Clinic, Cincinnati

August 13

24 Significance of Rectal Hemorrhage. L. J. Krouse, Cincinnati.
25 Diarrhea—A Symptom in Disorders of the Digestive Tract: Etiology, Diagnosis and Treatment. R. M. Rankin, Covington, Ky.
26 Prophylactic and Therapeutic Importance of Powerful Cervical Muscles. I. O. Allen, Richmond, Ind.

August 20

27 Angioneurotic Edema. W. E. List, Cincinnati.
28 Mode of Action of Mineral Waters Employed Internally. G. A. Persson, Mount Clemens, Mich.

University of Pennsylvania Medical Bulletin, Philadelphia

July-August

29 *Are Tubercle Bacilli Excreted Through the Bile? L. H. Maxson, Philadelphia.
30 *Ascending Infection of the Kidney Carried Out by the Method of Transplanting the Ureters Into the Intestines. L. F. Stewart, Philadelphia.
31 Pathogenesis of Tabes: Its Relation to the Biochemistry of Syphilis. W. E. Munroe, Philadelphia.
32 Practicability of the Meltzer-Auer Method of Continuous Intratracheal Insufflation. L. H. Landon, Philadelphia.
33 *Therapeutic Value of the Extract of Human Corpus Luteum. C. B. Maltz, Philadelphia.
34 *Febrile Mania of Unusually Long Duration Ending in Recovery. D. Riesman, Philadelphia.
35 Infection of a Stillborn Infant by an Amebiform Protozoon (*Entameba mortinatalium*). A. J. Smith and F. D. Weldman, Philadelphia.

29. **Tubercle Bacilli Excreted Through Bile.**—Maxson's observation points strongly to the fact that while the circulation of tubercule bacilli in the blood and their excretion in the bile is not proved, the evidence is sufficiently strong to make it very probable.

30. **Ascending Infection of the Kidney.**—In order to study the question of ascending infection of the kidney, Stewart concluded that it would be necessary to place uretero-intestinal implantation on a more firm basis. Formalin-hardened arteries suggested a way of doing this. The object was to have the arteries preserve the patency of the ureters and provide a way of making a more perfect anastomosis, which would lessen the possibilities of peritonitis. The preparation of these arteries was made by placing the carotid arteries of dogs in a formalin solution for 48 hours, after which time they were sufficiently hard to remain patent under pressure. Following this they were placed in olive oil and sterilized in an autoclave. Several experiments were performed to find out the result of passing these arteries diagonally through the intestinal wall. Autopsy in these cases showed that in about 2 weeks the arteries disintegrated and began to pass into the intestinal canal, leaving behind a rigid channel lined with fibrous tissue, the fibrous tissue formation probably being stimulated by the formalin remaining in the arteries. The following operation was first devised. The ureter was cut anywhere between the bladder and 3 inches from the kidney and an artery 2 inches long was inserted in it so that one-half was left uncovered. The uncovered portion of the artery was passed into the intestinal canal through an intermural channel from one-half to one inch in length, and the distal end of the ureter was sutured to the intestinal wall. The rigid artery containing ureter was covered by invaginating a portion of the intestinal wall and placing Lembert sutures; in this way the point of perforation of the intestine was covered and adhesions were permitted to form between the peritoneal surface of the intestine and the wall of the ureter. Thus the artery served to preserve the patency of the ureter at its point of attachment to the intestinal wall and to permit of a more perfect anastomosis with the intestine, in this way avoiding peritonitis. The object in making the intermural channel was to overcome the tendency to closure of the intestinal wound by muscular contraction, to place some distance between the end of the ureter, where it was attached to the peritoneal surface of the intestine, and the intestinal contents, and to have the urine empty in the direction of peristalsis and the fecal current. It was thought that these precautions would lessen the chances of ascending infection of the kidney. The above described operation with slight modifications was performed on 10 dogs. As a result

of his experiments, Stewart concludes that ascending infection of the kidney often takes place through either the lymph or the blood vessels of the ureter. When infection takes place in this way, it seems almost positive that the lymph vessels of the ureters are the carriers of the infection. It is probable that perinephritis is primary to the kidney involvement when infection of the lower urinary passages has caused perinephritis and kidney infection. The lumen of the ureter is less often a factor in ascending infection of the kidney than has previously been supposed.

33. **Extract of Human Corpus Luteum.**— In 9 cases Maits has used an extract of human corpus luteum made by Allen J. Smith in the University of Pennsylvania laboratories. He found that the extract of human corpus luteum possesses a distinct therapeutic action in osteomalacia, disturbances of the natural and artificial menopause and in hypofunction due to infantile uterus. In amenorrhea and in dysmenorrhea the treatment must at first be given each month. How long this must be continued before a permanent cure is effected and the injections can be omitted, Maits has not yet determined.

34. **Febrile Mania of Unusually Long Duration.**—Riesman's patient began to be troubled with insomnia, moodiness and causeless irritability of temper, which, however, did not attract attention at the time, being brought out only afterward in retrospect. Labor occurred on Jan. 4, 1909, and was entirely normal. On January 21, without any apparent cause, the patient began to have fever, which was thought to be due to a late puerperal sepsis; though this was, *a priori*, unlikely, as the confinement had been conducted with the greatest care by a skillful obstetrician. An enlarged spleen and a few suspicious rose spots on the abdomen seemed to warrant a diagnosis of typhoid. This probability was strengthened by two positive Widal reactions. A doubtful diazo reaction was also obtained. A slow pulse on several occasions when the temperature was high (82, for instance, with a temperature of 103) seemed also to favor the diagnosis of typhoid. On January 28, after 8 days of fever, the temperature fell by crisis, and the patient seemed to be perfectly well. She was, however, very much excited, did not cease talking of her speedy recovery, and constantly acclaimed it as a wonderful miracle. On the day following the fall in temperature, toward evening, she was unusually quiet, and as this followed a day of much mental exaltation a close watch was kept on her. Suddenly the patient began to scream and throw herself about so that it was necessary to hold her in bed. The eyes were wild and staring, and there was a white froth at the corners of the mouth. Coincidently with the onset of the mania there was inaugurated a fever ranging from 99 to 104 F., which lasted practically without any intermission from January 30 to August 11, a total of 193 days. The pulse was variable. Despite the extraordinary duration of the fever, the urine remained almost unaffected, aside from being highly concentrated and loaded with urates. There was, barring a trace on one occasion, no albumin and no pus. Blood examination showed hemoglobin 90 per cent.; red blood cells, 3,200,000; white blood corpuscles, 1,000.

Several points present themselves for special consideration: First, the cause of the fever, lasting nearly 200 days. There was no evidence of tuberculosis; no signs of endocarditis, no enlargement of the spleen and no intercurrent temperature to indicate malaria, and the blood examination was negative. All those who saw the patient were of the opinion that she was suffering from some sort of toxemia. The nature of the infection remains unknown. Riesman thinks the case was one of infectious mania in which the mania is comparable to the delirium seen in acute forms of infectious diseases.

Virginia Medical Semi-Monthly, Richmond

August 12

36 Cardiac Surgery—Its Lost Opportunities, Slow Development and Present Status. E. M. Hasbrouck, Washington, D. C.
37 Hysteria in its Relation to Gynecology and Obstetrics. G. F. Butler, Chicago.
38 Facial Erysipelas with Meningitis as a Sequel. J. N. Upshur, Richmond.
39 Indications for Trephining the Mastoid. W. A. Wells, Washington, D. C.
40 The Value of Exercise in Infancy. St. G. T. Grinnan, Richmond.
41 Placenta Prævia—A Plea for the Mother. J. A. Owen, Turbeville.

Memphis Medical Monthly

July

42 The Significance of Hematemesis. G. M. Niles, Atlanta, Ga.
43 Nasal Stenosis. B. S. Penn, Humboldt, Tenn.
44 Treatment of Fracture of the Long Bone. W. T. Black, Memphis.
45 Pityriasis Rosea. J. D. Hopper, Jackson, Tenn.
46 Present Day Serum and Vaccine Therapy. R. B. Underwood, Memphis.
47 The General Practitioner as a Specialist. P. M. Farrington, Memphis.

Archives of Pediatrics, New York

August

48 *Value of Brudzinski's "Neck Sign" and of the Contralateral Reflex in the Diagnosis of Meningitis in Infancy and Childhood. J. L. Morse, Boston.
49 *Comparison in Boys and Girls of Height, Weight, and Epiphyseal Development. T. M. Rotch, Boston.
50 *Stomach Contents and Motility in Bottle-fed and Breast-fed Infants. H. Heiman, New York.
51 Problems of Nutrition in Early Life. F. S. Mears, New York.
52 The Plantar Reflex in Infancy and Childhood. E. C. Fleischner, San Francisco.
53 Therapeutic Use of Sea Water in Infants. R. M. Merrick, Boston.
54 *Treatment of Enuresis by Re-education. C. Herrman, New York.
55 Finkelstein-Meyer Method of Infant Feeding by "Casein Milk." J. S. Leopold, New York.
56 *Education of the Mother in Relation to Infant Mortality. E. B. Sterling, Baltimore.
57 *Hygienic and Dietetic Treatment of Delicate Children by the Class Method. W. R. P. Emerson, Boston.
58 Lactic Acid Bacilli: What They are and What They are Supposed to Do. A. I. Kendall, Boston.
59 Tetanism. H. B. Sheffield, New York.

48, 50. Abstracted in THE JOURNAL, May 21, 1910, pp. 1710, 1712.

49. Abstracted in THE JOURNAL, June 4, 1910, p. 1889.

54. **Treatment of Enuresis by Re-Education.**—Applying the so-called method of conscious repetition of Brissaud to the treatment of involuntary micturition, Herrman has had the patient urinate at regular stated times, but every time he urinates he is directed to void a little, say 2 drams, and then stop; then void 2 drams more and stop, and so on, until the bladder is emptied. In this way the individual exercises the mechanism which controls urination; he trains and educates himself in the voluntary execution of the act. After this has been done two or three times under the direction of the physician the patient can carry it out himself.

56. **Education of the Mother in Relation to Infant Mortality.**—Sterling conducted an investigation of the experiences of a number of women whose special training in matters of health was definitely known. A set of questions, covering the occupation before marriage, the number of children, manner of birth, infant feeding, etc., were sent to 105 married graduates or former students of a successful normal school of physical education. Each of these women had spent one, two or three years at the school, where rational physical exercise, personal hygiene, and right habits of living were emphasized. Ninety-one replies were received and form the basis of this paper. The investigation covers a period of nearly 17 years, the first baby of the series being born in September, 1893. Of the 91 marriages 25 have been sterile to date. Of the 66 mothers, 56 were occupied in teaching for periods varying from 3 months to 12 years. In obtaining an average it was necessary to eliminate 10 of these, because their answers were too indefinite to show exactly how long they were thus occupied. The average length of time of the 46 who gave definite replies was nearly 3½ years. In the 66 fertile marriages, 112 pregnancies have occurred, the number per marriage ranging from 1 to 4. There are living to-day, at the end of almost 17 years, 100 children. This gives a total death-rate from all causes of 10.7 per cent.; 6 of the pregnancies resulted disastrously through abortions, premature birth, or birth causes at full term. In the series of 106 children surviving the ordeal of birth, practically 70 per cent. were breast-fed for periods varying from 1 month to 12 months, though in many instances artificial feeding was used as an aid to the breast; 77 per cent. of the mothers were able to nurse one or more children for one or more months. Of the 6 who died, 2 were nursed one or more months, and 4 were not nursed. Of the nurslings

who succumbed, 1 died of meningitis at 2 years of age and 1 of strangulation at 4 months. Of the 112 pregnancies, 75 resulted in normal or spontaneous births, 34 were not normal, and in 3 no report was made on this point. The death-rate among the children of these marriages is lower than that given for the registration area of the United States, which is about 14.5 per cent. Eliminating the so-called "unavoidable causes" connected with birth, the death-rate is markedly lower. The percentage of premature births is scarcely more than one-quarter that noted by Ballantyne in maternity hospitals. Abortions occur about one-quarter as frequently as in most series of cases. In the school which these young women attended subjects pertaining to health were of paramount importance. Sterling does not think that hygiene will ever become vital to the young women of the land until the academic councils of the various schools make as ample provision for such a course as they do for mathematics, or languages, or literature. Students will not take seriously a subject which the governing boards neglect.

57. **Treatment of Delicate Children by Class Method.**—Emerson is convinced that the class method is particularly well adapted to the proper treatment of delicate children. The spirit of competition, the "game" in it, has a powerful attraction to the child, aiding greatly in his management and control. The steady gain in weight in children following directions furnishes a strong incentive to the parents and the children alike. The class method makes the necessary instruction of the parents easy and effective. The results obtained each week remove prejudices and fears and convince in a moment, as if by magic, where hours spent in arguments fail. In the giving of instructions and directions to the parents and the children assembled together there is an enormous saving of time. The class method furnishes the best training school for the social worker. She can here learn what instructions are to be carried out; what the object sought. She catches the spirit of the work and is enabled to relieve the physician of a large mass of detail for which he has neither the time nor the energy to perform, and for which the social worker is the one person especially qualified by sex and training to carry out.

Long Island Medical Journal, Brooklyn

August

60 The Associated Physicians of Long Island. J. C. Hancock, Brooklyn.
61 Preventive Medicine from a Chemical Standpoint. H. W. Wiley, Washington, D. C.

Medical Herald, St. Joseph, Mo.

August

62 The Non-Operative Treatment of Tuberculous Arthritis. H. W. Orr, Lincoln.
63 Certain Facts in Ophthalmology of Practical Importance to the General Practitioner in His Daily Practice. J. M. Banister, Omaha.
64 Should the Operation for Ruptured Tubal Pregnancy be Immediate or Deferred—Personal Experiences and Deductions. J. E. Summers, Omaha.
65 The Rapid and Complete Cure of Gonorrhea. T. M. Paul, St. Joseph.

Therapeutic Gazette, Detroit

August

66 *Calomel to Increase Elimination in Pregnancy. S. Coles, Philadelphia.
67 Actions and Uses of Salicylic Acid and its Preparations, Especially in Rheumatism. B. N. Ghosh, Calcutta, India.
68 Carbon-Dioxid Snow in Certain Cutaneous Diseases. H. W. Stelwagon, Philadelphia.
69 Vulvitis, Vaginitis, and Vulvovaginitis of Children. F. H. Maier, Philadelphia.

66. **Calomel to Increase Elimination in Pregnancy.**—The eliminative action of calomel is best obtained by giving from 1/20 to 1/10 grain 3 times a day, which course can be safely continued throughout pregnancy, says Coles, by omitting it for 3 or 4 days every 2 weeks. To get the best results from these small doses, the calomel should be well triturated with bicarbonate of soda, which increases its action and lessens the danger of salivation. For the past 12 years Coles has made this method of administration a routine treatment in all pregnant women in whom elimination was deficient, as indicated by headache, slight disturbance of the digestion, and diminution of solids and urea excreted in the urine. Usually in less than a week after beginning this treatment these symptoms will disappear, and the urea and solids become normal. Then the patient is instructed to discontinue the powders or tablets until she again feels the need of them.

Journal of the Minnesota State Medical Association and Northwestern Lancet, Minneapolis

August 15

70 Uses of Morbidity Reports. H. W. Hill, Minneapolis.
71 *Probable Spinal-Cord Lesions Following the Pasteur Treatment. W. A. Jones, Minneapolis.
72 Arteriosclerosis in the Nervous System: Special Reference to Apoplexy. A. S. Hamilton, Minneapolis.
73 What is a Predisposition to Inguinal Hernia? J. E. Moore, Minneapolis.

71. Published in full in THE JOURNAL, Nov. 13, 1909, p. 1626.

Chicago Medical Recorder

August

74 *Retroflexion and Retroversion of the Incarcerated Gravid Uterus. H. M. Stowe, Chicago.
75 *Cure of Varicose Veins by Intravenous Injections. W. F. Bernart, Chicago.
76 Robert Koch (1843-1910). P. Ehrlich, Frankfort on the Main, Germany.
77 *What the Mayor and City Council Can do in the Prevention of Typhoid. L. L. Lumsden, U. S. P. H. and M.-H. S.

74. **The Incarcerated Gravid Uterus.**—In Stowe's case the urethral orifice was drawn upward behind the pubic bone so that the catheter was used with difficulty. The posterior vaginal wall was displaced anteriorly, the canal assuming the form of a crescent with its convexity forward. Douglas' pouch was filled with a hard, resistant mass which was slightly movable—the uterine fundus. The cervix lay behind the pubis and was firmly compressed against the bone. The sharp flexion between it and the fundus was easily made out. The anus was swollen and the anterior rectal wall greatly stretched. The rectum was empty. The bladder was palpable at a level of 5 cm. above the umbilicus. It was very tender to pressure. An attempt was made to pass the catheter without narcosis but it failed. Under anesthesia, a soft catheter was passed with great difficulty because of the traction on the urethra; 3 pints and 9 ounces of urine were finally withdrawn and the swelling in the abdomen immediately disappeared. After the urine had been removed, two fingers were passed in to raise the fundus above the promontory. This procedure failed. The patient was then held in the knee-chest position, the cervix secured with two strong volsellum forceps and the uterus forced into an oblique diameter and slowly—25 minutes—raised out of the true pelvis. An Albert Smith pessary was then introduced to maintain the organ in its natural position. A permanent soft rubber catheter was secured in the uretha to avoid further over-distention of the bladder, and this organ was irrigated with warm boric-acid solution every 3 hours. The catheter was removed in 36 hours. The bowels were moved by glycerin injections. The abdominal pain gradually subsided and the pulse fell to normal in 4 days. Hexamethylenamin was administered for several weeks as a urinary antiseptic. The further course of the pregnancy was undisturbed and the patient was delivered in due time. No complications were present.

75. **Cure of Varicose Veins by Intravenous Injections.**—If the injection of a corrosive solution, such as of mercuric chlorid, is directed against the endothelium of a vein instead of into the middle of the blood stream a complete and lasting occlusion of the vein can readily be accomplished. The irritation caused by the injection produces a hyperplasia of connective tissue cells, which encroach on the lumen of the vessel and ultimately obliterate it. Bernart has tried this treatment in three cases, with marked success in each one. The ultimate results in these are said to be equal to those of a radical operation. The technic of the procedure consists of applying a tourniquet some distance above the point to be injected so as to make the veins tense and firm. The site selected is washed with alcohol or ether and a 2-inch small gauged platinum needle is passed up to its shoulder into the lumen of the vessel. The tourniquet is then loosened and the solution is injected against the wall of the vein. While injecting, the needle is partially withdrawn so as to cover a wider area of the endothelium.

77. Also published in the *New Mexico Medical Journal*, August, 1910; see No. 131.

Journal of Nervous and Mental Disease

August

78 Three Pre-Frontal Tumors. F. X. Dercum, Philadelphia.
79 *Sarcomatosis of the Cervical Dura Suggesting Hypertrophic Cervical Pachymeningitis. F. X. Dercum, Philadelphia.
80 Laminectomy for Postsyphilitic Nerve Root Pain. F. R. Ray and S. I. Schwab, St. Louis.
81 *Radiculitis. F. W. Langdon, Cincinnati.
82 Kernig's Sign; Its Presence and Significance in General Paresis and Arterio-Capillary Fibrosis. S. Stern, Philadelphia.

79. Abstracted in THE JOURNAL, June 4, 1910, p. 1894.

81. Abstracted in THE JOURNAL, July 16, 1910, p. 249.

Journal Oklahoma State Medical Association, Muskogee

August

83 Modern Research—A Criticism and a Suggestion: With Special Reference to Typhoid. A. K. West, Oklahoma City.
84 Malaria, Atypical Forms. R. K. Pemberton, Kress.
85 Diagnosis and Treatment of Typhoid Perforation. J. H. White and I. B. Oldham, Muskogee.
86 *Local Anesthesia. L. F. Watson, Oklahoma City.

86. **Local Anesthesia.**—Watson holds that the strong solutions are equally or more dangerous than general anesthesia, while the weak solutions are the safest of all methods of analgesia. When local anesthesia is possible he prefers cocain to ether or chloroform, because he believes it to be less dangerous, from observations on its use during the last 23 years in over 10,000 operations not only without a death but without any disturbance of the *"equilibre physiologic"* of the patient. On the strength of the solution, he says, depends the rapidity, intensity and duration of the anesthesia. The technic of the injection is always delicate; it varies with each region, with each operation and in each patient. The technic must be learned with a knowledge of its application and adaptation to each individual case. Success in the use of local anesthesia depends on the patience, special training in the technic and an intimate knowledge of sensory nerve distribution. Because of the slower appearance of complete anesthesia with the weaker solutions, surgeons who begin operating as soon as the injection is finished will often fail with local anesthesia. Nerves, no matter how small, should never be handled previous to cocainization; to do so will lessen the confidence of the patient in the method, cause unnecessary pain and a certain amount of shock. For a similar reason lacerated and contused wounds of the extremities should not be prepared for operation previous to cocainization. Without the absolute confidence of the patient, work under local anesthesia will tax the patience of the most skillful surgeon; therefore, it is very important to always proceed slowly during the early stages of an operation under cocain.

Watson considers the addition of adrenalin unnecessary to prevent poisoning when the weak solutions are used, besides it increases the tendency to secondary oozing of blood into the tissues. The point of the needle should always be in sight (intra-epidermal), otherwise an unnecessary amount of solution will be required to anesthetize the sensory nerve terminals. It is impossible to insert the needle too superficially. Local anesthesia can be employed in any part of the body where the nerve supply can be controlled. With a proper selection of cases, Watson asserts, the majority of surgical operations can be performed under local anesthesia. He recently had a case in which an infected wound of the foot was freely incised under vein anesthesia without the knowledge of the patient. A tourniquet was applied just above the knee and 15 c.c. of a 0.2 per cent. cocain solution was injected into the external saphenous vein in the upper third of the leg. Anesthesia was complete in 30 minutes, extending as high as point of injection. Sensation reappeared as soon as the tourniquet was removed. No untoward symptoms were present at any time.

Vermont Medical Monthly, Burlington

August

87 Aphasia. W. L. Wasson, Waterbury.
88 Reflex Stomach Symptoms in Surgical Disease of the Gastro-intestinal Tract. J. M. Gile, Hanover, N. H.
89 Technic of Using Forceps. J. R. Patton, Fairfield.
90 Hernia. W. J. Aldrich, St. Johnsbury.
91 Scarlet Fever. F. C. Angell, Rudolph.

Dominion Medical Monthly, Toronto

August

92 The Old and the New Gynecology. H. C. Coe, New York.
93 Renal Calculus with Nephrectomy. W. W. Jones, Toronto.
94 Appendicitis in Children. I. Wood, Kingston, Ont.

Journal of Medical Research, Boston

August

95 Antianaphylactic Vaccination. E. J. Banzhaf and E. Steinhardt, New York.
96 *Vaughan's Split Products and Unbroken Proteins: A Comparative Study of Their Effects. E. J. Banzhaf and E. Steinhardt, New York.
97 *Anaphylaxis and the Antibodies Concerned. J. F. Anderson and W. G. Frost, U. S. P. H. and M.-H. S.
98 *Typhus Exanthematicus (Tabardillo) in Mexico. E. F. McCampbell, Columbus, Ohio.
99 *Properties of Ascitic Fluid, Especially in Cancer. R. Weil, New York.
100 *Bacteriemic Theory of Tuberculosis. B. White and O. T. Avery, Brooklyn.
101 Origin and Development of Giant Cells in an Epidermoid Carcinoma of the Tongue. A. Forbes, Boston.
102 *Relation of Intestinal Absorption to Pulmonary Anthracosis. C. M. Montgomery, Chestnut Hill, Pa.
103 Sporothrix and Epizootic Lymphangitis. C. G. Page, L. Frothingham, Boston, and J. B. Paige, Amherst, Mass.
104 *Gonorrheal Salpingitis. F. B. Gurd, New Orleans.
105 Larvæ of *Strongyloides Intestinalis* in Human Lung. J. G. Gage, New Orleans.

96. **Vaughan's Split Products.**—This article is a confirmation of Vaughan's work and theory.

97. **Anaphylaxis.**—The experimental work reported on by Anderson and Frost is chiefly a study of the anaphylactic antibody (allergin) designed as a study of the principles of anaphylaxis rather than of its details. The authors have given special attention to the quantitative relations existing between allergin and its specific antigen, also to the relation of allergin to the conditions of hypersusceptibility, anti-anaphylaxis, and immunity. The wealth of detail in the paper precludes making an abstract for these columns.

98. **Typhus Exanthematicus.**—It is McCampbell's belief that European typhus fever and tabardillo are probably identical. The virus of tabardillo cannot be cultivated by the ordinary methods. There is nothing distinctive in the pathology of tabardillo. The most characteristic change is the extensive waxy degeneration of the heart and voluntary muscles. The blood taken from the rash in the macular stage in a large percentage of cases shows small micro-organisms which resemble the belted bacilli of the hemorrhagic-septicemia group. These micro-organisms are not present in other parts of the circulation and are found only during the rash. The erythrocytes of tabardillo patients drawn during the rash show a peculiar vacuolization in a large number of instances. The vacuolization is not general throughout all the corpuscles. This suggests the possibility of an intracorpuscular parasite. The virus of tabardillo can probably be transmitted to the monkey, producing a low febrile infection, and it is probably not filterable. The louse could be directly connected by experiment with the carrying of the virus of tabardillo.

99. **Ascitic Fluids in Cancer.**—The result in Weil's experiments have been almost entirely negative in character—that is to say, they have not indicated the existence of any specific character such as would serve to differentiate with certainty fluids derived from cancerous individuals from those of another origin.

100. **Bacteriemic Theory of Tuberculosis.**—The authors claim that there is no proof to show that the acid-fast organisms found by Rosenberger and others in their preparations of sedimented, citrated blood from tuberculous individuals were originally present in the circulating blood of these individuals, or that these bacilli are tubercle bacilli. On the contrary, it now seems reasonable to suppose that these acid-fast organisms were accidentally introduced into the microscopic preparations and are to be considered as contaminations. There appears, therefore, to be no adequate reason for changing previously established conceptions concerning the conditions governing the presence of tubercle bacilli in the circulating blood.

102. **Intestinal Absorption and Pulmonary Anthracosis.**—The alimentary route of pigment failed to lead to pulmonary anthracosis in guinea-pigs after ingestion and inhalation

experiments in which amounts of pigment were administered far in excess of amounts ingested under ordinary conditions. Intestinal absorption of inert particles has been demonstrated by proper experiments, but only after the repeated ingestion of amounts far in excess of those entering the alimentary tract under normal conditions. Apart from the alimentary route—which is practically a negligible factor—Montgomery says that there is only the respiratory route which may lead to pulmonary anthracosis occurring (1) accidentally, as found at autopsy in animals and human beings, and (2) artificially, the result of inhalation experiments. This is confirmed by inhalation experiments.

104. **Gonorrheal Salpingitis.**—According to Gurd, a much larger percentage of cases of salpingitis are due to the gonococcus than is usually supposed; at least 80 per cent. of the cases in Gurd's series are probably due to that organism. Old pus collections may become the nidus for infection by other organisms such as the colon bacillus. This organism, in all probability, enters the already present pyosalpinx by direct passage through the tissues from the frequently adherent sigmoid. The appearance of the tubes examined in this series suggests that the exacerbation of symptoms which occurs, periodically, in cases of chronic salpingitis is due to the repeated involvement of the peritoneal covering in an acute inflammatory process. The great preponderance of plasma cells over the other inflammatory cells, as well as the localization of the lesion, chiefly in the mucosa and submucosa, is very suggestive of the gonorrheal origin of an affection. The gonococcus invades the tube by means of the continuity of surface of the mucosa from the uterus. The histologic picture is probably to a great extent dependent on this fact.

Old Dominion Journal of Medicine and Surgery, Richmond

August

106 Medical Men of Virginia. L. G. Tyler, Williamsburg, Va.
107 Hygiene of the Nervous System During Infancy and Childhood. B. R. Tucker, Richmond, Va.
108 Preparation of Patients for Prostatectomy. E. S. Judd, Rochester, Minn.
109 Congenital Union of Spleen and Liver. B. C. Wills, Rochester, Minn.
110 Effect of Heat and Cold in Tuberculosis. C. L. Minor, Asheville, N. C.
111 Uterine Descent. L. Gwathmey, Norfolk, Va.

Kentucky Medical Journal, Bowling Green

August 15

112 Peripheral Operation for Trigeminal Neuralgia. A. Schachner, Louisville.
113 Nystagmus as a Symptom in the Diagnosis of Ear Diseases. J. M. Ray, Louisville.
114 Cesarean Section. J. G. Sherrill, Louisville.

Bulletin of the Johns Hopkins Hospital, Baltimore

August

115 *Fatal Apnea and the Shock Problem. Y. Henderson, New Haven, Conn.
116 The Threefold Physiologic Origin of Uric Acid. W. Jones, Baltimore.
117 *Intrathoracic Displacements in Pulmonary Tuberculosis. A. P. Francine, Philadelphia.
118 Blood Cultures in Pneumonia. S. Strouse and P. W. Clough, Baltimore.

115. **Fatal Apnea and the Shock Problem.**—The acapnia hypothesis, according to Henderson, requires the prevention of excessive pulmonary ventilation. The administration of morphin and full anesthesia diminish the activity of respiration under pain and thus prevent acapnia. If, however, one administers morphin or chloroform to a subject after he has suffered for some time, fatal apnea is hastened unless carbon dioxid is also administered. When a moderate degree of shock has been induced by irritation of afferent nerves or by exposure of the viscera, Henderson finds that it is possible to induce a rapid recovery of arterial pressure by the infusion into a vein of normal saline or of Ringer's solution saturated with CO_2. Then the animal is made to breathe an atmosphere of oxygen and CO_2 or else merely of oxygen supplied at the end of a long tube. Under these conditions it rebreathes the oxygen several times and thus the CO_2 which the subject itself produces is utilized to stimulate respiration and increase the otherwise insufficient oxygen intake. If the degree of shock previously induced is not too severe, not only do these measures of relief induce a rapid restoration of arterial pressure and respiration, but this restoration is maintained. On the other hand, in profound shock these measures fail to effect an ultimate recovery. Indeed, after the diminished blood stream has resulted in tissue asphyxia and acidosis no measure of relief, except perhaps hypertonic saline or transfusion of blood, can be of much use.

There are two methods of treating acapnial failure of respiration under anesthesia. If a soft catheter is inserted in the trachea down to the bifurcation of the bronchi and a gentle stream of oxygen gas is supplied, according to the method devised by Volhard, the subject will lie for a very long time indeed in complete apnea. By this method a supply of oxygen ample for all the needs of the tissues may be maintained. The oxygen should, however, be measured, and for a man should be not less than 400 c.c. per minute. Under these conditions in animals reaccumulation of CO_2 proceeds relatively rapidly. In one case Henderson has seen a dog in acute acapnia lie for 12 minutes without the slightest respiratory effort and at the end of this period recommence normal breathing. The oxygen jet had supplied ample oxygen for the combustion of the acidosis substances which would otherwise have been produced. This method of Volhard, therefore, accomplishes a double object. It prevents the acidosis of asphyxia at the same time that it allows the subject to recover from acapnia. Another method of restoration of breathing has been tried in dogs during apnea with strikingly successful results. It consists in administering air or oxygen containing 5 or 6 per cent. of CO_2 and in starting the subject to breathing by one or two artificial respirations. As soon as the normal tension of CO_2 in the lungs is thus restored spontaneous breathing immediately recommences and is maintained as long as the inspired air contains a sufficient quantity of CO_2 to stimulate the respiratory center. It will, Henderson thinks, be advisable to use for this purpose oxygen and CO_2, and not merely air plus CO_2, for the purpose of preventing the acidosis of which he speaks. Indeed, oxygen and CO_2 would combine the advantages of both methods for preventing fatal apnea. It must be remembered that CO_2 is a powerful drug and one to be administered in small quantities only—never in greater concentration than 5 or 6 per cent. Henderson has devised a simple gas meter which he believes may be useful for measuring the small quantities of CO_2 to be added to air or oxygen as a respiratory stimulant. It would be better to have the gases already mixed.

117. **Intrathoracic Displacements in Pulmonary Tuberculosis.**—This paper deals with the changes brought about in intrathoracic relations as shown by skiagrams of cases of pulmonary tuberculosis, studied clinically before and after taking of the *x*-ray plate, and is supplementary to a paper published in the *American Journal of Medical Sciences*, May, 1910, and abstracted in THE JOURNAL, May 28, 1910, p. 1822.

Iowa Medical Journal, Des Moines

August

119 The Quality, Quantity and Preparation of Foods. T. E. Powers, Clarinda.
120 Treatment of Valvular Heart Disease. G. C. Moorehead, Ida Grove.
121 Dietetics and Therapeutics of Autointoxication. M. Emmert, Atlantic.
122 Present Status of Serotherapy. W. J. Findley, Sac City.
123 Chronic Intestinal Catarrh: With Special Reference to Dietetic Management. W. E. Sanders, Alta.
124 Our Rights and Privileges. B. S. Louthan, Sutherland.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

August

125 *Action of Drugs on the Salivary Secretion. V. E. Henderson, Toronto.
126 Thyreotropic Iodin Compounds. R. Hunt and A. Seidell, Washington, D. C.
127 *Insufflation of the Lungs with Hydrogen, Carbon Dioxid, and Air. C. C. Guthrie, F. V. Guthrie and A. H. Ryan, Pittsburg.
128 *Influence of Intravenous Injections of Spartein and Adrenalin on the Heart of the Dog. A. Strickler and M. S. Fleischer, Philadelphia.
129 Detoxification of Benzoic Acid by Optical Isomers of Leucin. A. H. Koelker and S. Amberg, Baltimore.
130 Toxicology of the Tutu Plant. W. W. Ford, Baltimore.

125. **Salivary Secretion.**—It was found by Henderson that iodids are excreted by the salivary gland, but that their

presence in the blood stream does not initiate a flow of saliva if the salivary center is depressed or its nerve connections to the glands broken; nor does the excretion of iodids increase a previously existing flow or increase the effectiveness of a reflex stimulation. Salivation from iodids must be due to some reflex cause. Other salts, sulphocyanates, carbonates, and nitrites, when injected intravenously, act similarly to iodids. Emetin has a central and reflex action; antimony in non-toxic doses acts only reflexly. Ammonium salts have a central action, but also a reflex action which is probably the more important. Apomorphin acts directly on the center. It has no peripheral action in the gland. The salivary center is very labile, readily affected by sensory stimuli and readily depressed by narcotics.

127. **Insufflation of the Lungs with Hydrogen.**—With hydrogen gas containing less than 1 per cent. of oxygen, a typical asphyxial blood-pressure curve was written by the mercury manometer, only the events (rise and fall of pressure and slowing of the heart) appeared sooner and were of shorter duration than was the case when asphyxia was produced by clamping the trachea. Also respiratory effort disappeared and death occurred more quickly than with simple clamping of the trachea. If, before the final stage of asphyxia was reached, the hydrogen was shut off and air turned on, resuscitation rapidly occurred. With a mixture of hydrogen and air, a state of partial asphyxiation could be produced and indefinitely maintained. The same was true for a mixture of nitrogen and oxygen which was prepared by partially removing the oxygen from air. With carbon dioxid the results were essentially the same as with hydrogen, the signs of death being somewhat more rapid.

Similar results follow the use of imperfectly air-tight bellows. For example, with a pulmonary ventilation much greater than that adequate with air, if the insufflation be carried out by compression of the gas death occurs rapidly, but if the gas be pumped through a leaky bellows, a ventilation not much greater than that adequate with air may not immediately be followed by death or even the severer grades of asphyxial symptoms. If now the bellows be treated to a tightening process (e. g., wetting), death may soon occur, when the experiment is again performed. Under the conditions of their experiments, the authors therefore conclude that insufflation of the lungs of cats or rabbits with hydrogen gas leads rapidly to cessation of respiratory and circulatory movements (clinical death). Also, if not delayed too long, resuscitation may be accomplished by insufflating the lungs with air, accompanied by cardiac massage if the circulation has fallen very low.

128. **Influence of Spartein and Epinephrin on the Dog.**—It appears from Strickler and Fleisher's work that the intravenous injection of spartein sulphate followed by the intravenous injection of epinephrin does not produce myocarditic lesions in dogs, a fact which seems to be of great interest inasmuch as the lesions produced by similar injections in rabbits are so very pronounced. It is probable that this difference is due to the fact that the heart of the dog is relatively stronger than that of the rabbit and is consequently better able to resist the injurious effect of these substances. The results of experiments with dogs, therefore, confirm the explanation which Fleisher and Loeb offer for the causation of myocarditic lesion in rabbits—namely, that they are due to excessive mechanical strain.

New Mexico Medical Journal, East Las Vegas

August

131 *What the Mayor and City Council Can Do in the Prevention of Typhoid. L. L. Lumsden, U. S. P. H. and M.-H. S.
132 Status of Tuberculosis in the City of Roswell. C. N. Yates, Roswell.
133 Medical Organization and its Results. F. Palmer, Cerrillos.
134 Artificial Feeding of Infants. M. K. Wylder, Albuquerque.

131. Also published in *Chicago Medical Recorder*, August; see No. 77.

Colorado Medicine, Denver

August

135 Hernia: False or Pseudotraumatic Hernia. R. W. Corwin, Pueblo.
136 Peritonsillar Abscess: Cause and Treatment. W. C. Bane, Denver.
137 Importance of Pain in the Back as a Diagnostic Symptom. C. B. Lyman, Denver.
138 Operative Treatment of Recent Fractures of the Patella. M. Kahn, Leadville.
139 Fractures of the Pelvis. P. Jaffa, Trinidad.
140 Sliding Hernia. F. C. Buchtel, Denver.
141 The Insane of Colorado. J. E. Courtney, Denver.

Philippine Journal of Science, Manila

February

142 The Tropical Sun. P. C. Freer, Manila.
143 *Treatment of Trypanosomiasis with Special Reference to Surra. R. F. Strong and O. Teague, Manila.
144 *Etiology of Beriberi. H. Fraser and A. C. Stanton, Kuala Lumpur, Malay States.
145 *Idem. J. deHaan, Java, East Indies.
146 Beriberi in Siam. H. C. Highet, Bangkok, Siam.
147 *Phosphorus Starvation: Special Reference to Beriberi. H. Aron, Manila.
148 *Idem. H. Aron and F. Hocson, Manila.
149 Beriberi. G. Shibayama, Tokio, Japan.
150 Food Salts in Relation to Beriberi. E. D. Kilbourne, U. S. Army.

143. **Treatment of Trypanosomiasis.**—The authors find after long-continued observation that arsenophenylglycin is by far the most satisfactory means of treatment of trypanosomiasis yet discovered. In the use of arsenophenylglycin two methods of treatment may be considered, as already outlined by Ehrlich: First, that by stages in which relatively small doses are given and at repeated intervals; second, the treatment by one or several large doses. Arsenophenylglycin is a light yellow powder, very soluble in water and containing about 38 per cent. of metallic arsenic (atoxyl contains about 31 per cent.). It is manufactured by Ehrlich and thus far for experimental purposes only.

144 to 148. Discussed in Manila Letter, THE JOURNAL, Aug. 20, 1910, p. 706.

Mississippi Medical Monthly, Vicksburg

August

151 Adhesions of the Lower Abdomen: Their Causes, and Indications for Their Surgical Relief. A. G. Trotter, Greenwood.
152 Difference Between the "Ethical Proprietary" and the "Secret Nostrum." H. H. Gover, Okolona.
153 Dwarf Tape-Worm. W. L. Little, Wesson.
154 Etiology and Dissemination of Typhoid. E. W. Hunter, Greenwood.
155 Hypodermic Use of Quinin in the Infant as well as the Adult, with Special Reference to Malarial Hematuria. E. R. McLean, Cleveland.

Detroit Medical Journal

August

156 Treatment of Cardiovascular Disease. J. Tyson, Philadelphia.
157 Foot Troubles Due to Relaxation of the Plantar Ligament: Clinical Classification, Increasing Prevalence and Treatment. W. H. Wilmer, Cleveland, Ohio.
158 Thyroidism as a Causative Factor of Intestinal Disturbances. M. Ballin, Detroit.
159 The Wassermann Test for Syphilis. T. Walker and R. G. Owen, Detroit.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

August 13

1 *Fibroma, Sarcoma and Fibromyoma of the Abdominal Wall. C. R. Lockwood.
2 Acute Laryngeal Dyspnea. H. Barwell.
3 *An Aid to Diagnosis in Malignant Disease. E. N. Royle.
4 *Occluding and Subocclusing Ligatures. Y. Bonney.
5 Congenital Spastic Hypertrophy of the Pylorus. F. Barker and L. Mackay.
6 *Artificial Pneumothorax in the Treatment of Pulmonary Tuberculosis. W. Holmboe.
7 A Dermoid Cyst of the Testicle Associated with a New Growth. F. J. F. Barrington.
8 Extrauterine Pregnancy Occurring Twice in the Same Person. W. W. Stainthorpe.
9 *Effect of Radium on the Healthy Tissue Cell. G. P. Mills.
10 Public Health Administration in Hamburg. W. E. Home.

1. **Fibroma, Sarcoma and Fibromyoma of Abdominal Wall.**—Over a very long period Lockwood has encountered only 7 instances of fibroma, sarcoma and fibromyoma of the abdominal wall. They were all situated on the front abdominal wall. Only 2 were found to the left of the median line, the remaining 5 being on the right side. The anatomic situation is a point of some importance, and ought to be more accurately noted than has hitherto been done. As a rule, the tumors are situated in the aponeurotic structures, but not

always. Of his series one was in the back of the sheath of the rectus, one in the conjoined tendon of the internal oblique and transversalis, another in the substance of the exterial oblique muscle above the eleventh costal cartilage, and finally, one consisting of fibrous tissue with unstriped fibers in the left inguinal canal, and, in Lockwood's opinion, in the round ligament of the uterus.

The anatomic situation of these tumors, says Lockwood, ought to be noted, because some are spindle-cell sarcomata, which return after removal, and ultimately kill the patient. To extirpate a spindle-celled sarcoma successfully, it is necessary to make a very wide removal of the muscle in which it is growing. To the naked eye these tumors have the ordinary character of the fibrous structures of the body. Perhaps they may look a little redder, but there is nothing distinctive in the naked-eye appearances. Some of them are like the gizzard of a fowl in shape, color and consistency. Some have a capsule.

With regard to the clinical history of these tumors, the patient says that they are usually painless, and are not tender to the touch. The fibromata are of long duration; they take years to grow. In the case of a man with one behind the sheath of the right rectus, there is a history of fourteen years, and others had histories measured by years. The growth of sarcomata, on the other hand, is measured by months, so that an accurate clinical history throws some light on the nature of the tumor and the course which it might pursue. The surgical treatment of these tumors of the abdominal wall depends on their pathologic characters. An encapsulated tumor may be removed from its capsule, especially when one knows that the tumor consists of fibrous tissue. But if there is no capsule and if the tumor is growing along one of the abdominal muscles then the removal becomes a matter of great difficulty.

3. **Aid to Diagnosis in Malignant Disease.**—A careful examition of the urine in malignant and non-malignant cases convinced Royle that the uric acid output in malignant disease is greater than in ordinary hospital patients under similar conditions and taking the same diet, and that the phosphate excretion is much lower in malignant than in non-malignant patients under corresponding conditions and taking the same diet, and that it falls with the advance of the disease. The resulting ratio of

$$\frac{\text{phosphates}}{\text{uric acid}}$$

is much lower in malignant cases than in the corresponding controls done in non-malignant cases. Also, this ratio falls throughout the course of the disease. These conditions, Royle thinks, are largely, though not absolutely independent of the particular form of diet, the same changes being noted in malignant patients on any diet as compared with ordinary hospital patients on a similar diet. With diets consisting largely of milk, however, and of little or no meat, lower uric acid figures, often higher phosphates, and in most cases higher ratios are given in malignant and non-malignant patients than would be the case if the patient were on "common diet."

From the results obtained, Royle believes that an examination of the urine will prove of great value as an aid to diagnosis in obscure cases of cancer, especially in cancer of the alimentary canal and abdominal organs, which is often difficult to distinguish from such diseases as gastric ulcer, tuberculosis, gall-stones, etc. In order to apply this test, it is necessary to estimate the uric acid and phosphate content of the urine, and to conside. the figures separately and then take into account the

$$\frac{\text{phosphates}}{\text{uric acid}}$$

ratio, any ratio below 4 being suggestive, especially if it remains low on several occasions, and any ratio below 3 is almost diagnostic of malignant disease or a blood disease.

4. **Occluding and Suboccluding Ligatures.**—The point made by Bonney is that suboccluding ligatures should be avoided.

6. **Artificial Pneumothorax.**—Holmboe reports in detail a case of moderately advanced pulmonary tuberculosis in which the production of an artificial pneumothorax resulted in wonderful improvement after serotherapy had failed. Cough and expectoration ceased, temperature and pulse became normal, weight increased 20 pounds, and the patient was able to work several hours each day. Similar results were obtained in four other cases.

9. **Effect of Radium on Healthy Tissue Cells.**—This preliminary note is the result of some experimental work by Mills on the comparative effects of radium on normal mouse tissues. The radium was applied over the anterior abdominal wall and the subsequent changes in the liver tissue were observed. The applicator used was one of 500,000 units and was guarded by a shield which cut off the A and B rays, while allowing the more penetrating Y rays to pass through. It was applied for 30 minutes in each case. The mice were killed at varying intervals after exposure and the liver examined microscopically. The earliest definite change noticed occurred about one hour after irradiation. The liver cells in this section were more granular than usual, and there were none of the clear glycogen-containing vacuoles which are present in the normal mouse liver. Otherwise the liver cells themselves appear normal. The connective tissue elements also showed the early stages of a reaction. This was manifested by the presence of numerous groups of round and spindle cells in the neighborhood of the veins. There was distinct hyperemia, but at this stage there was no general increase of the mesoblastic cells. Three hours after irradiation the liver cells were profoundly altered. The protoplasm was deeply granular and the nucleus stained very clearly and was considerably swollen. The whole cell also was slightly increased in size, but not nearly to such an extent as the nucleus. The areas of mixed-cell infiltration round the veins were larger and more numerous. Sections taken 6 hours after irradiation showed that the liver cells had become more normal in appearance. The protoplasm was no longer granular, but the nucleus was still enlarged. The hyperemia was less and there was less infiltration with connective tissue cells than in the previous section. In 24 hours the vast majority of the liver cells appeared normal. Scattered about the section, however, there were a few cells which appeared to have degenerated completely. While these changes were found in the liver generally, there was in most of the sections a place near the edge where the cells had suffered a greater and permanent change. There was in the sections taken 3 hours after irradiation a mass of liver cells which had completely lost their structure. A similar condition was found in the sections examined up to the eighth day after irradiation, and in the later ones some signs of organization of the affected part were observed. Presumably this mass of necrosed tissue corresponded to the spot immediately over which the radium was applied, and represents the effect of the rays at a very close range. It is of interest that in no case was any inflammation of the skin observed.

In the sections taken 14 and 15 days after irradiation, however, there were obvious signs that a second or late reaction was taking place. This was confined to the connective tissue elements and consisted of a marked general infiltration of the liver with lymphocytes, connective tissue cells, and a few polymorphonuclear leukocytes, and this to a greater extent than in any of the sections taken during the few days immediately following irradiation. There were also large masses of similar cells clustered round the veins. These changes were associated with a general hyperemia. No area of necrotic cells was observed. It would appear that this is the histologic basis of the "radium reaction" observed clinically by radiographers, and it is of interest to note that it is confined to the connective tissue elements. This late reaction lasts longer than the initial one, for 20 days after irradiation the liver was still found to be in a similar condition.

British Medical Journal, London

August 13

11 Value and Misuse of Spectacles in the Treatment of Headache, Migraine and Other Functional Troubles of the Eyes. R. W. Doyne.

12 Refraction of the Eye in School Children. A. E. Dorrell.

13 Relations of Poor Law Reform to Public Health and the Medical Profession. S. Webb.

Medical Press and Circular, London

July 27

14 The Principles and Treatment of Pulmonary Emphysema. T. Ewart.
15 The General Medical Council: The Medical Profession and the Public. D. Walsh.
16 Displacements of the Uterus. H. R. Andrews.
17 The Conceptions of Insanity and Their Practical Results. J. MacPherson.
18 The Acute Infections of the Lungs. A. Fraenkel.

Clinical Journal, London

August 3

19 Skin Rashes and Their Treatment. J. L. Bunch.
20 Mucomembranous Colitis. A. F. Hertz.
21 Aphasia and Other Disorders of Speech: Dysarthria, Aphemia, Apraxia, Idioglossia, Amnesia: Prognosis, Diagnosis and Treatment. T. A. Williams.

Journal of Tropical Medicine and Hygiene, London

August 1

22 Blackwater Fever. J. F. G. Mayor.

Annals of Tropical Medicine and Parasitology, Liverpool

July

23 Parasitic Granuloma. A. R. Ferguson and O. Richards.
24 Study of *Porocephalus Armillatus*. A. Broden and J. Rodhain.
25 Absence of a Vesicant in Ether Extract from Mosquitoes. J. O. W. Barratt.
26 *Factors in the Transmission and Prevention of Malaria in the Panama Canal Zone. S. T. Darling.
27 *Effect of Cold on Various Diseases in Small Animals. R. Ross and C. L. Williams.
28 Malaria Prevention in Jamaica. R. Boyce.
29 Species of Cyclops and Other Entomostraca Collected in Northern Africa. G. S. Brady.
30 A New Anopheline from the Federated Malay States. M. Watson.
31 Occurrence of Schizogony in an Avian Leucocytozoon, *L. Lovati*, Parasitic in the Red Grouse, *Lagopus Scoticus*. H. B. Fantham.
32 Sleeping Sickness Studied by Precise Enumerative Methods. R. Ross and D. Thomson.

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26. Transmission and Prevention of Malaria in Panama.—This paper details a most exhaustive study of many phases of malaria, and for purpose of reference only, the following list of points discussed are given: Anophelines of this region; collection of larvæ; breeding out mosquitoes and methods of feeding; biting—infecting experiments; estimation of gametes; care of mosquitoes after feeding; method of examining for zygotes and sporozoites; description of the malarial parasite in the mosquito; table of infecting experiments; notes and conclusions from table of infecting experiments; limit of infectiousness of man; notes on the biönomics of anophelines; effect of salt or sea water on larvæ; experiments with larvacides; experiments with agents destructive to vegetation, grass and algae; experiments with screening of various mesh; relative value of wire screening of various composition, based on practical tests and chemical analysis; note on the value of the practice of killing anophelines found in quarters and barracks; effect of quinin on the parasite in mosquito and man.

On the last point mentioned, Darling says that the effect of quinin administration is to make the gametes gradually disappear from the peripheral blood by the destruction of the young forms, the gametes being phagocyted by splenic and hepatic endothelium. It is concluded that quinin, 10 grains, thrice daily, in solution, will gradually reduce the sexual form of the parasite in man to a non-infective minimum in from a few days to a few weeks, depending on the severity of the infection. In simple tertian malarial fever, gametes disappear from the peripheral blood within two or three days under quinin treatment, and generally disappear even when quinin is withheld, even if the patient is at rest. There are never so many gametes in the peripheral blood in simple tertian malaria as in malignant tertian malaria. As a consequence, one never finds so many simple tertian zygotes as malignant zygotes in infected mosquitoes.

27. Effect of Cold on Diseases in Small Animals.—The animals subjected to the influence of cold were guinea-pigs, rats and mice. They were placed in cages, well-bedded and well-fed, fat and proteid especially being provided in their diet. The diseases brought under the influence of the cold were chiefly various trypanosomiases, with, in addition, tuberculosis (bovine), cancer (in mice), tetanus, and spirochetosis. The only animal which failed to show trypanosomes after inoculation with *T. brucei* was one in the cold chamber. Twelve mice were inoculated with cancer, and 6 put into the cold chamber; 5 lived 50, 51, 56, 70 and 90 days respectively, whereas of the 6 controls, 2 lived 56 and 76 days respectively. Of the remainder, 3 controls failed to develop tumors, and 1 each in the control and cold chambers died within a few days of inoculation. Some mice were also infected with *Spirochæta duttoni*, but no appreciable influence on the course of the disease could be observed in them.

Five guinea-pigs with tetanus were placed under observation. One, injected with 1/500 c.c. of a culture and placed in a cold chamber, died in 9½ days, but it is very doubtful if it died of tetanus; 2 injected with 1/1,500 and 1/1,000 c.c. respectively and kept as controls never showed any symptoms; while 2 injected with 1/500 c.c. and placed, 1 in the cold chamber and 1 as control, died with similar symptoms in a similar time—something over 50 hours.

An Englishman suffering from sleeping sickness of some 3 months' duration had a course (interrupted for some days) of 12 days, or some 53 hours in all, of cold air. The temperature was gradually decreased till 24 degrees F. was reached. He himself said he felt much better for the treatment, which acted on him as a tonic, but in the short period he was under observation no visible diminution was apparent in the number of trypanosomes in the blood.

Six guinea-pigs were inoculated with bovine tuberculosis (0.1 mg. culture) and 3 placed in the cold chamber and 3 outside, with, of course, uninoculated controls in both cases. The uninoculated controls throve, except that 1 in the cold chamber died after 34 days of no obvious cause, there being only a little lung congestion evident in post mortem. Of the inoculated, all are still alive, and those in the cold chamber have now been in it 137 days, and seem quite fit and well. One female has aborted twice, but whether from the cold, the tuberculosis, or other cause, cannot be stated definitely. Four guinea-pigs have since been inoculated with human tuberculosis, and 3 of these are at present under observation, 1 having died soon after inoculation. Several rats have been inoculated with cultures of pneumococcus, but so far no marked difference has been observable in their symptoms, whether in or out of the chamber, and none has died, so that they remain under observation, and the final result will only become apparent later.

Glasgow Medical Journal

August

33 Latent and Chronic Infections with the Typhoid Bacillus. C. H. Browning and W. Gilmour.
34 Embryologic Significance of Certain Lesions of the Prepuce and Neighborhood. G. H. Edgington.
35 Congenital Occlusion of the Duodenum (Accompanying a Deficiency of the Hind Gut). A. H. Gray.

Journal Laryngology, Rhinology and Otolaryngology, London

August

36 Ménière's Symptoms with Facial Paralysis. A. Bruce and J. S. Fraser.*
37 The Operative Technic of the Labyrinth. Dr. Bourguet.

Archives des Maladies du Cœur, Etc., Paris

August, III, No. 8, pp. 465-528

38 The Proteolytic Antiferment of the Serum. N. Fiessinger.
39 The Wassermann Reaction with Disease of the Cardiovascular System. Oigaard.
40 The Neutro-Leukocyte Quotient and Nuclear Index. (Examen des neutrophiles du sang circulant; leur valeur nucléaire en rapport avec les autres globules blancs; indice nucléaire et quotients neutro-leucocytaires.) J. Sabrazès.

Lyon Chirurgical, Lyons

August, IV, No. 2, pp. 109-224

41 *The Thyroid Lesions of Primary Exophthalmic Goiter and of Goiter Tending to this Type. (Les lésions thyroïdiennes de la maladie de Basedow primitive et du goitre basedowifiant.) H. Alamartine.
42 The Wassermann Reaction. C. Garin and C. Laurent.
43 Fractures of the Elbow in Children. (Les fractures du coude chez l'enfant.) H. Muller. Commenced in No. 1.

41. The Lesions in the Thyroid with Exophthalmic Goiter.—Alamartine has become convinced by his clinical experiences and research on resected goiters that exophthalmic goiter is generally the result of some toxi-infectious thyroiditis, entailing cirrhosis with hypertrophy of the gland and insufficient or perverted secretion. Rheumatism and tuberculosis, he asserts, are the two infections whose causal influence has been most effectually demonstrated.

Obstétrique, Paris

July, N. S. III, No. 7, pp. 609-672

44 *Treatment of Depression of the Skull in New-Born Infants. (Traitement des enfoncements du crane chez le nouveau-né.) F. Commandeur.

44. Depression of the Skull in New-Born Infants.—Commandeur warns of the serious consequences liable to follow birth traumatism causing depression or indentation of the cranial bones. The immediate mortality is about 14 per cent. In case of survival there may be hemiplegia, convulsions and epilepsy or idiocy as the child grows up. Sometimes the depression spontaneously springs back into place; this is more likely to occur with parietal than with frontal depressions. If the depression is causing symptoms it should be corrected immediately, and a frontal depression should always be corrected, he affirms, without waiting for symptoms. If there are no symptoms from a parietal depression temporizing is allowable but never for more than 10 days. He has found 46 cases on record in which the depression was artificially corrected; infection was responsible for the 3 possibly operative fatalities. Correction of the depression put an end at once to the symptoms; they were more severe with the frontal depressions. Vicarelli has improved the corkscrew method and has applied it in 14 cases with constant success; in 5 cases in which it was applied by others, 2 of the infants succumbed to meningeal hemorrhage. In the 27 other cases the depressed part of the bone was pushed into place from below, entering through the sutures or an incision in the bone. Commandeur commends the corkscrew method as preferable when indications permit, especially when the soft parts are incised and drawn out of the way and the Heine or modified corkscrew is inserted directly into the bone. Full directions are given for this and the other modes of correcting the depression and the cases in which this treatment was applied are reviewed with some medical cases bringing the total to 52. All emphasize the dangers of delay.

Presse Médicale, Paris

July 27, XVIII, No. 60, pp. 577-584

45 Characteristics of the Streptothrix Family. (Sur les caractéristiques du genre Oospora et son extension dans l'état de nos connaissances.) A. Sartory.

46 *Differential Diagnosis of Syphilitic Chancre of the Tonsil and Chancriform Angina. A. Le Play and A. Sézary.

August 3, No. 62, pp. 593-600

47 The Criteria of Physical Development. H. Dausset and P. Desfosses.

48 Intravesical Segregation of Urine and Catheterization of the Ureters. G. Luys.

August 6, No. 63, pp. 601-608

49 *Recurring Attacks of Diarrhea with Neuro-Arthritic Diathesis. (La crise d'entéro-colite chronique envisagée comme décharge toxique des neuro-arthritiques.) H. Marcou.

50 *Repeated Lumbar Puncture in Treatment of Fracture of Base of Skull. A. G. Apostolides.

46. Chancre in the Tonsil.—Le Play and Sézary report a case in which the chancre developed in the left tonsil, the lesion presenting the aspect of an ulceromembranous sore throat. The persistence of the lesion for three weeks notwithstanding systematic gargling with potassium chlorate was suspicious although there was no enlargement of glands in the vicinity and the ultramicroscope revealed spirochetes. The diagnosis of syphilis was confirmed by a roseola that developed soon afterward and the positive Wassermann reaction. There was no fever at any time. In a second apparently similar case there was slight fever towards night and a slight tendency to glandular enlargement, but the ultramicroscope revealed the spirilla and fusiform bacilli of Vincent's angina and the course of the case confirmed this diagnosis. In both cases the microscopic field contained two or more specimens of the *Spirochæta refringens*.

49. Periodical Intestinal Disturbances as Regulatory Process.—Marcou explains the sudden transudation into the bowel, which is the common feature in all cases of chronic diarrhea, as sometimes an automatic means of clearing out the poisons in the system when they have accumulated beyond a certain point. The diarrhea in chronic kidney disease is merely an exaggeration of this process of cleaning out the body such as occurs in the neuro-arthritic on a milder scale. Schmidt's "diarrhea from transudation of an easily putrefying fluid" also belongs in this class as also some of the attacks of gastrointestinal trouble that come on after weaning, such as Herter and Heubner have described (THE JOURNAL, March 13, 1909, page 913, and Jan. 22, 1910, page 330). The attacks of recurring enterocolitis can thus be regarded as an automatic regulating process when they occur in individuals with an inherited tendency to auto-intoxication, belonging to the great family of neuro-arthritics, that is, those predisposed to nervous and joint disturbances. This conception enables the physician to tranquilize the patient during these recurring bowel troubles, teaching him to regard them as an effort by Nature to throw off accumulated poisons, a natural purification, which must be borne in patience, and that there is no necessity for doing the Wandering Jew act from doctor to doctor which is so often the practice of patients of this class. The violence and frequency of the attacks can be influenced by treatment of the underlying neuro-arthritic diathesis, reducing the opportunities for accumulation of toxins by dieting, and toning up the nervous system in general. At the same time, Marcou warns against too precise instructions in regard to the diet as the patient may learn to dread all kinds of food.

50. Lumbar Puncture after Fracture of Base of Skull.—This communication from Smyrna emphasizes the advantages of lumbar puncture both for differentiation and cure of fracture of the base of the skull, reporting a case in which there were signs of meningitis after a fall on the head, intense headache, incoherent babbling, the pulse being 50. Lumbar puncture released about 40 c.c. of bright red fluid under high pressure and the patient roused at once, the headache disappeared and the mind became clear. Some of the symptoms returning later other punctures were made with equally good effect. The fluid was limpid at the fourth puncture and recovery was soon complete and there have been no disturbances during the 10 months since. In this case the puncture was made the same day as the accident, but in the second case the meningitic symptoms did not develop for a few days and the puncture was not made until the twelfth day after the accident; 4 punctures in the course of 6 days also resulted in practically complete recovery although this patient still has total anosmia. The puncture not only relieves the brain from the pressure of fluid but by releasing this fluid it washes out quantities of germs which otherwise would find in the bloody fluid an excellent culture medium.

Semaine Médicale, Paris

August 10, XXX, No. 32, pp. 373-384

51 Digestive Insufficiency After the Nursling Period. (La dénutrition par insuffisance digestive au cours de la seconde enfance.) L. Cheinisse.

Berliner klinische Wochenschrift

August 1, XLVII, No. 31, pp. 1441-1484

52 *Treatment of Spastic Paralysis by Resection of the Posterior Spinal Roots. (Operative Behandlung der spastischer Lähmungen mittels Resection der hinteren Rückenmarkswurzeln.) O. Foerster.

53 *Test of Kidney Functioning by Determination of Proportion of Diastase Eliminated in the Segregated Urine. (Neue Methode zur Prüfung der Nierenfunktion.) J. Wohlgemuth.

54 Action of Gonococcus Vaccine on Course of Gonorrheal Processes. C. Schindler.

55 Superinfection of Rabbits with Syphilis. (Ergebnisse der Superinfektion bei der Syphilis der Kaninchen.) E. Tomaszewski.

56 Intravenous Injection of Ehrlich's 606. (Die intravenöse Einspritzung des neuen Ehrlich-Hata-Präparats gegen Syphilis.) E. Schreiber and J. Hoppe.

57 *Transfusion of Human Blood in the Clinic After Preliminary Biologic Tests. (Bluttransfusion beim Menschen.) W. Schultz. Commenced in No. 30.

58 Staining Technic for Differentiation of Tubercle Bacilli. (Weitere Erfahrungen über meine Methode der Tuberkelbacillenfärbung.) D. Gasis.

59 Bacilli on Faucets Liable to Prove Source of Error in Sputum Examination. (Eine Fehlerquelle bei der Antiformin-methode.) H. Beitzke.

60 Hemolytic Substances in Stomach Content Not Specific for Cancer. (Anwesenheit hämolytischer Substanzen im Mageninhalt.) S. Livierato.

61 Idem. (Wert des Isolysinebefundes für die Diagnose bösartiger Geschwülste.) B. Agazzi.

52. Resection of Posterior Roots for Spastic Paralysis.—Foerster here gives the theoretical bases for the operation generally known by his name and reviews the indications, technic and results. In every case in which it has been applied to date the spastic contractures were mitigated or entirely cured, he states, adding that adjuvant measures are indis-

pensable to produce the best ultimate results. He cites 16 cases in which the operation has been performed, but the list is actually much longer.

53. **Test of Kidney Functioning by Elimination of Diastase in the Urine.**—Wohlgemuth applied this test first on dogs and then in 50 clinical cases, the reliability and accuracy of the findings sustaining, he declares, the value of this simple method of testing kidney functioning; the test is complete in half an hour. He has two sets of 10 test-tubes, in which he pours from 0.06 to 0.6 c.c. of urine in turn and then to each tube he adds salt solution to bring the total contents of each to 1 c.c. He then adds to each tube 2 c.c. of a 1 to 1,000 solution of "soluble starch." The stands with the tubes are then set in the water bath at 38 or 40 C. for half an hour after which 1/50 normal iodin solution is added to each tube, a drop at a time, until the tint changes permanently. The findings are obtained by comparison of the action of the diastase according to the concentration in starch in the different tubes, each set containing the urine from only one kidney, segregated by catheterization of the ureters. The urine does not have to be filtered, and it can also have served previously for determination of the freezing-point; a little blood does not affect the test. In health, both human beings and dogs seem to eliminate approximately equal proportions of diastase with both kidneys. In a typical case reported, the freezing-point was 1.28 in the right urine and 0.53 with the left; sugar, 1.6 per cent. with the right, and 0 with the left; indigocarmin test: green after 7 minutes and blue after 15 with the right urine, the left urine still colorless; the index from the diastase test after 30 minutes was 10 in the right kidney and 3.33 with the left; after 24 hours, 25 with the right and only 8.3 with the left. The findings with all these functional tests thus harmoniously agreed, while the diastase test is even more sensitive than the indigocarmin and phloridzin tests as it often gave positive findings when the other tests were still negative.

57. **Therapeutic Transfusion of Blood.**—Schultz reports a good outcome in 10 cases in which he made a transfusion of defibrinated blood in serious anemia, after having tested the action of the alien blood on the patient's blood corpuscles. He was thus able to refrain from using blood that displayed any tendency to induce agglutination or hemolysis. Even in the one case in which this was not done, and the transfusion induced acute collapse, chill, fever to 104 F. and edema, yet the general effect seemed to be good after these symptoms had subsided. The transfusion had a markedly favorable effect in all the cases of secondary anemia, but in pernicious anemia the benefit was only transient.

Correspondens-Blatt für Schweizer Aerzte, Basel

August 1, XL, No. 22, pp. 697-728

62 *Indications for Prostatectomy. F. Suter.
63 Progress and Limitations in Efforts to Insure Asepsis Before, During and After Operations. (Keimprophylaxis bei der Wundbehandlung und Streben nach Präventivmitteln gegen die Wundinfection.) C. Brunner. Commenced in No. 21.

62. **Indications for Prostatectomy.**—Suter operated last year in 10 cases of prostatic retention, all by the suprapubic route by Freyer's technic. The functional results were good in every case except one in which the hypertrophy proved to be malignant. In the case of 2 comparatively young men he performed the primary prostatectomy without delaying for catheter treatment as he was anxious to ward off infection of the bladder. The virility was not impaired in any case by the operation; this is the prinicipal advantage of the Freyer technic.

Deutsche medizinische Wochenschrift, Berlin

August 4, XXXVI, No. 31, pp. 1433-1472

64 Prophylaxis and Treatment of Measles. (Masern.) F. Siegert.
65 *Transient Cortical Amaurosis from Traumatism of the Head. (Ueber passagere Rindenblindheit durch Commotio cerebri.) C. Hirsch.
66 Present Status of Knowledge in Regard to Viscosity of the Blood. F. Krone.
67 Study of the Psychic Gastric Secretion. (Untersuchungen über den psychischen Magensaft bei einem Kranken nach Gastrostomie.) R. Hertz and S. Sterling.
68 *Amenorrhea and Tertiary Syphilis. E. Meirowsky and K. Frankenstein.
69 Production of and Technic for Use of Compressed Air in Hospitals. (Der Luftkompressor im Krankenhaus.) F. Kuhn.

65. **Transient Blindness from Contusion of the Skull.**—The patient was a boy of 12 who had been run over by an automobile and brain substance protruded from a gash in the skull. The boy was unconscious at first and was blind when he roused, the amaurosis being complete with no perception of light. Vision then gradually returned and by the third day was normal and it has persisted so to date, the other injuries soon healing.

68. **Amenorrhea and Tertiary Syphilis.**—The amenorrhea had lasted for 6 and 8 years in the 3 cases reported; the women were from 28 to 42 years old. All were suffering from severe manifestations of tertiary syphilis and under the mercury and iodid they were taking menstruation returned; is was quite normal in the younger women but assumed a vicarious form in the other, epistaxis recurring regularly at the menstrual period. The cases emphasize the importance of specific treatment for amenorrhea in women whose history suggests the possibility of syphilitic changes in the ovaries.

Medizinische Klinik, Berlin

August 7, VI, No. 32, pp. 1245-1284

70 Neuroses after Accidents. (Neurosen nach Unfällen: Winke für den Praktiker.) S. Erben.
71 Psychology and Psychopathology of Old Age. (Greisenalter.) A. H. Hübner. Commenced in No. 31.
72 Generalized Infections with the Colon Bacillus. (Allgemeininfektionen des menschlichen Körpers durch Bacterium coli commune.) A. Lindemann.
73 Incandescent Light Baths. (Ueber Glühlichtbäder.) R. von Jaksch.
74 Bismuth Paste in Treatment of Fistulas. M. Brandes.
75 Normal Weight in Proportion to Height. (Ueber das nach der proportionellen Körperlänge bestimmte Normalgewicht.) G. Zickgraf.
76 Radium in Treatment of Cancer. F. W. Nahmmacher.
77 Formula for Expressing Features of the Circulation. (Zur Theorie der Zirkulationsformel.) A. Sperling.
78 Tuberculosis Toxins. (Ueber Tuberkulosegifte.) F. Jessen.

Münchener medizinische Wochenschrift

August 2, LVII, No. 31, pp. 1625-1672

79 Industrial Accidents Arousing Latent Internal Disease in Apparently Sound Individuals. (Betriebsunfälle: Mitteilung eines Falles von bis dahin symptomlos verlaufenem Verschluss der I. Karotis und erheblicher Verengerung beider Arteriae subclaviae.) Ch. Bäumler.
80 *Atypical Forms and Complications of Intermittent Limping. (Atypische Formen und Komplikationen der arteriosklerotischen und angiospastischen Dysbasie.) H. Curschmann.
81 *Treatment of Little's Disease. K. Biesalski.
82 Experimental Transplantation of Large Flaps of Stomach Mucosa. (Ueber die Transplantierbarkeit von breiten Magenschleimhautlappen.) L. Debernardi.
83 Experiences with Ehrlich's 606 in Treatment of Syphilis. (Kurzer Bericht über 109 mit "606" behandelte Luesfälle.) A. Glück.
84 Treatment of Anthrax. (Zur Behandlung des Milzbrandes.) F. Koelsch.
85 *Improved Technic for Treatment of Small-Pox. (Beitrag zur Behandlung der Variola.) W. Dreyer.
86 Helminthiasis and Treatment with Oil of Chenopodium. (Ueber Ascaridiasis und ihre erfolgreiche Behandlung mit dem amerikanischen Wurmsamenöl.) M. Gockel.
87 Aspiration of Pleural Effusion. (Ein neuer Pleurapunktionsapparat.) W. Weitz.

80. **Atypical Forms of Intermittent Limping.**—Curschmann regrets that physicians do not make a practice of examining the arteries in the foot more frequently as they thus miss the explanation of many puzzling syndromes. The diagnosis of arteriosclerotic intermittent limping is further rendered more difficult by the atypical forms occasionally observed, as in 2 cases he describes in which the patients had intense pains come on while they were at rest, especially at night, and the pains were dissipated by getting up and walking—the syndrome thus being exactly the reverse of the classical type. In both the cases there was a history of syphilis 10 or 11 years before, and in both the affection came on with a sudden onset. These cases resemble 2 recently described by Erb as "arteriitic dysbasia." In some other atypical cases reported by Curschmann there was a combination of intermittent limping affecting the left foot, vascular cramps in both hands during work, with occasional motor disturbances, actual dyspraxia, and at the same time intermittent intense pain in the left arm. A similar syndrome was observed in other patients free from arteriosclerosis, and he is inclined to explain it as an abnormal tonicity of the smaller arteries, a pure angiospastic form of dyspraxia. In another case the presumptive diagnosis is angiospastic intermittent limping developing in the course of a climacteric vasomotor neurosis.

Intermittent limping may accompany osteomalacia and he reports a case of this combination in a woman of 43 who had had two premature deliveries about 30. After a couple of years the patient was totally unable to walk and the skeleton was tender but there were no signs of arteriosclerosis although the pulse in the feet was imperceptible. Under two months of bed rest, phosphorus and cod-liver oil and brine baths all the symptoms of the osteomalacia subsided and also all traces of the intermittent limping syndrome. Even the pulse in the feet returned as the osteomalacia subsided. He has noticed pronounced vasoconstrictor phenomena in the hands and feet in 3 other patients with osteomalacia, women 50, 73 and 79 years old, but they never progressed to actual intermittent limping. As puerperal osteomalacia is probably the result of perverted functioning of the ovaries or uterus, the vasomotor symptoms may have a similar origin.

81. **Resection of Posterior Roots for Spastic Paralysis.**—Biesalski admits the theoretical importance of Foerster's operation to interrupt the reflex arc causing Little's disease on account of the lack of the normal inhibiting influence of the pyramidal tracts. At the same time, he insists that this treatment should be restricted to the severest cases and applied only after failure of the ordinary measures. The paralysis has generally entailed such secondary shriveling and shortening of the soft parts, vessels and nerves that normal functioning of the limb is impossible even after the contracture has been cured. Patient, persevering exercise of the contracted muscles, never leaving them at peace, may induce surprising improvement in time, he says. Even rest over Sunday is liable to undo much of the good realized. Only in the cases with rigidity of all the muscles and when new spasmodic contractures develop as the primary are corrected, should the Foerster operation be considered; it is too serious for children. The technic is not difficult but nearly every surgeon who has reported its application has had a fatality except Küttner in his 12 cases. Biesalski has applied it himself in 2 cases; the results were disappointing on account of the secondary changes. See abstract 52 above.

85. **Treatment of Small-Pox.**—Dreyer writes from Egypt to call attention to his method of excluding the chemical rays from his numerous small-pox patients without bothering with red curtains, etc. He merely paints the patient's body, especially the exposed regions, with a saturated solution of potassium permanganate. This stains the skin and has the same filtering effect on the light rays as Finsen's red-light treatment while it permits ample ventilation of the apartment. It has further a distinct disinfecting action; the pustules seem to be less malignant and the pitting is less under this treatment although it does not affect of course the specific variola process. Caution is necessary in case of weakness of the heart, preexisting or from the toxic action of the disease. It might be possible, he suggests, to substitute the sodium for the potassium salt as potassium is more toxic for the heart, but he has had no experience with the former.

Therapie der Gegenwart, Berlin

August, LI, No. 8, pp. 337-384

88 *Encapsulated Pleural Effusions and Empyema. Especially the Interlobar Variety. (Abgekammerte, insb. interlobäre Pleuraexsudate.) A. Fraenkel.

89 *Intravenous Injection of Diphtheria Antitoxin. (Die intravenöse Injektion des Heilserums bei Diphtherie.) H. Tachau.

90 *Prophylaxis and Cure of Faulty Attitudes by Utilizing the Children's School-Book Bag. (Zur Prophylaxe der habituellen Haltungsanomalien.) G. Müller.

88. **Encapsulated Pleural Effusions.**—Fraenkel remarks that diaphragmatic pleurisy causes insignificant symptoms when the encapsulated effusion is of slight extent—merely a big blister—but the pain may be considerable with much tenderness at certain points, especially at the intersection of a line continuing horizontally the tenth rib with a vertical line continuing the outer margin of the sternum. The epigastrium may also be tender and the tenth and eleventh interspaces, and there may be a particularly sensitive point close to the spine. Pressure on the phrenic nerve in the neck is also liable to be painful. Besides these radiated pains there is sometimes pain in the stomach and pain as what is swallowed passes the diaphragm and, likewise, pain in the region of the diaphragm during coughing. Hiccough and vomiting are also liable to occur from reflex action as the food passes the diaphragm. A reflex contraction of the abdominal wall at the close of a deep inspiration may also be observed. When the mediastinal pleura is involved there was a sudden stormy onset of symptoms in the 6 known cases of this kind, high fever, the disturbances restricted to one side, and the affection leading to a small accumulation of pus which generally perforated into the bronchi. The symptoms are those natural from compression of the vagus and recurrent nerves, air passages or esophagus. An encapsulated interlobar effusion may be of small amount or up to a pint or quart of effusion or pus; it generally is most evident along the axillary line from the fourth to the sixth interspace, where it is most readily reached by the needle. When it increases in amount threatening symptoms on the part of the lungs and heart are possible. Puncture may not locate the effusion, and the compression of the air passages and heart may suggest a tumor but radiography will confirm the assumption of an interlobar effusion based mainly on the pallor, persisting fever and resonance over the right upper lobe. Putrid empyema is generally secondary to a gangrenous process in the lung, he says, but he has met with a case in which a traction diverticulum of the esophagus was the primary trouble. He adds that these traction diverticula are common but are easily overlooked at autopsies.

89. **Intravenous Injection of Antitoxin.**—Tachau's experiences failed to demonstrate that there is any advantage in the intravenous over the subcutaneous route in administering antitoxin. He applied the intravenous technic in 100 cases; the temperature rose after the injections in half the cases while in 3 cases, the patients between 15 and 24, there were chills and transient collapse.

90. **Correction of Faulty Attitudes in School Children.**—Müller advises a knapsack for the child to carrry his books home from school; it is supported by straps from the center, passing over the child's shoulders, then through a slanting catch on each side of the knapsack; the straps are then brought around the waist and buckled in front. The weight from the books in this knapsack is exactly what is needed, he states, to correct the faulty attitudes assumed by children at their school work. The ordinary methods of carrying the school books tend to exaggerate the faulty attitudes which in time lead to actual curvature of the spine.

Wiener klinische Wochenschrift

August 4, XXIII, No. 31, pp. 1131-1160

91 *Bladder Disturbances after Administration of Ehrlich's "606." (Ueber Blasenstörungen nach Anwendung des Präparates 606. Erwiderung.) P. Ehrlich.

92 *Idem. (Ueber unerwunschte Nebenerscheinungen nach Anwendung von Dioxydiaminoarsenbenzol—606—Ehrlich-Hata.) K. Bohac and P. Sobotka.

93 Opsonins of Normal Active Serum. E. E. Pribram.

94 *The Stage of Fatigue in Encroaching Stenosis of the Pylorus, and Its Treatment. (Das Ermüdungsstadium der Pylorusstenose.) S. Jonas.

95 Importance of the Complement-Binding Test in Diagnosis of Echinococcus Disease in Man. G. Braunstein.

96 Action of Mineral Waters on the Metabolism. (Zur Kenntnis der Wirkung der Mineralwässer auf den Stickstoffwechsel bei Menschen.) Markl.

91. **Bladder Disturbances after Administration of Ehrlich's "606."**—This is a telegram to the editors of the *Wochenschrift* from Ehrlich expressing regret that Bohac and Sobotka had not advised him at the proper time of their experiences with disturbances after giving the "606" in 3 cases before publishing them. (Their communication was summarized in THE JOURNAL, September 3, page 898.) If they had informed him of their experiences, he adds, the sensational disquietude caused by their article might easily have been avoided. He says that 132 other vials of the same batch of "606" were sent to 5 other hospital physicians and none has had any untoward experiences with it, and both himself and Alt and Sellei think that the disturbances reported by Bohac and Sobotka are typical methyl alcohol intoxication symptoms, and that the trouble was due to the injurious action of a perhaps not entirely pure methyl alcohol. The powdered drug had been rubbed up with a little methyl alcohol before dissolving in water, according to Ehrlich's directions and practice.

92. **Untoward By-effects after Administration of Ehrlich's "606."**—Bohac and Sobotka here report the later history of the 3 patients referred to in the last abstract. The complete retention of urine lasted for 10 days in one case, the rectal tenesmus a little longer. The reflexes behaved better at the second examination; the knee-jerk could still not be elicited reclining but could be elicited with more or less facility when the patient sat up. They add further that 3 other patients have returned with new periosteal gummas, new eruption of papules or pustulization of the old eruption 2 or 3 weeks after the apparent cure under the single dose of 0.3 gm. of the "606." They state further that the syndrome they observed in the 3 cases presenting untoward symptoms differed entirely from that of methyl alcohol intoxication as depicted by Robert and by von Jaksch. (This article was mentioned in the Vienna Letter, August 27, page 791.)

94. **The Stage of Fatigue in Stenosis of the Pylorus.**—Jonas calls attention to a possible source of error in functional tests of the stomach, namely, that the test meal is so light that even an insufficient stomach is able to take care of it without fatigue. The same stomach, with a meal making more demands on its functioning, may reach a stage of fatigue or exhaustion, and this stage would be reached more readily the less functionally capable the stomach. He reports 2 typical cases of this fatigue phase and another bordering on it. In the 2 typical cases described, in men of 48 and 53 respectively, signs of hyperacidity and hypersecretion had been noted for years; and finally they began to vomit, occasionally, from a pint to a quart of acid vomitus, containing scraps from the previous day's meals and sarcinæ. The symptoms indicated ulcer and stenosis of the pylorus but the skiagram showed an apparently normal stomach and the stomach emptied itself in approximately the normal period. Treatment should aim to reduce the work demanded of the stomach and favor its evacuation. This is accomplished by giving oil which lubricates the pylorus while soothing the mucosa and the tendency to spasmodic contraction and modifying the acidity; it has also nutritive value. Rinsing out the stomach also relieves it of retained matters and products of hypersecretion. The food should be soft and fluid to spare the stomach as much work as possible, and particularly nourishing food should be given as the stomach musculature seems to grow stronger as the patient gains in weight. Treatment along these lines has given excellent results in his cases. Gastroenterostomy is the last resort.

Zentralblatt für Chirurgie, Leipsic

August 6, XXXVII, No. 32, pp. 1033-1072

97 *Enteroanastomosis Above Incarcerated Hernia. (Behandlung gangränöser Hernien ohne sofortige Lösung der Inkarceration.) F. Hesse.

98 Extension Device for Fracture of the Forearm. (Ueber den Zugverband beim Vorderarmbruche.) C. Ewald.

97. **Enteroanastomosis above Incarcerated Hernia.**—Hesse expatiates on the advantages of leaving the incarcerated hernia unmolested while the enteroanastomosis is made above it, without attempting to reduce the incarcerated loop. This technic was suggested by Samter 15 years ago, he says, but has not obtained the vogue it merits. The lateral anastomosis is made far enough above to refrain from pulling on the incarcerated bowel, which is wrapped in gauze below. The anastomosis is made through an incision over an inch above Poupart's ligament; the mesentery is fastened to wall off the region below, and the incision is then sutured. The gangrenous hernia and surrounding inflammation are then taken care of through an opening below, but Hesse advises not to attempt to reduce the incarceration nor pull on the bowel in any way. By this method it is possible to reestablish the permeability of the intestinal canal, and open up the focus while yet protecting the abdomen above from contamination, and all with the simplest and least exacting technic, deferring the resection of the gangrenous loop to a more propitious hour, when the patient has regained strength, the wound is in better condition or the light better. The objections to the method are that the lateral anastomosis has to be made against the peristalsis and the liability to a persisting fistula at the hernial opening. It should be reserved for cases in which every minute counts or the patient is too weak to stand a more extensive operation. Hesse gives the details of two cases in which he has successfully applied this technic. Both patients were women, 43 and 53 years old.

Zentralblatt für Gynäkologie, Leipsic

August 6, XXXIV, No. 32, pp. 1073-1104

99 *Vaginal Cesarean Section for Artificial Abortion and Premature Delivery. (Hysterotomia vagin. ant. als Methode zur künstlichen Unterbrechung der Schwangerschaft.) R. Jahreiss.

99. **Vaginal Cesarean Section for Abortion and Premature Delivery.**—Jahreiss reports a few cases in which he evacuated the uterus by a simple anterior vaginal hysterotomy at the sixth or eighth week or fourth or sixth month of pregnancy on account of aggravation of epilepsy, eclampsia or other reason. The facility of the operation, its effectualness and the smooth recovery speak in favor of this means of abortion and premature delivery as less of a physical strain on the whole than the ordinary technics.

Gazzetta degli Ospedali e delle Cliniche, Milan

July 31, XXXI, No. 91, pp. 953-968

100 Albumin in Sputum Not Always due to Tuberculosis. (Sul valor dell' albumino-reazione nell' espettorato.) C. P. Goggia.

101 Histologic Research on Action of Roentgen Rays on Experimental Uranium Nitrate Nephritis. C. Quadrone.

August 2, No. 92, pp. 969-976

102 Action of Epinephrin on the Circulation in the Lung. (Azione dell'adrenalina sul circolo polmonare.) A. Farini.

August 7, No. 94, pp. 985-1000

103 Metabolism. (Sul ricambio.) P. Giacosa.

104 *Simplified Skin Tuberculin Test. (Nuovo metodo innocuo, facile e comodo di reazione tubercelinica.) P. Barabaschi.

104. **Simplified Tuberculin Skin Test.**—Barabaschi rubs the region with alcohol until the skin is red. Then in the center of the small area thus prepared he spreads the thinnest possible layer of undiluted tuberculin without rubbing it in and lets it dry. In the cases in which he has applied the tuberculin test in this way, the reaction was always positive in the 34 known tuberculous and negative in 35 controls. A positive reaction was obtained in 3 cases in which only the tendency to anemia had suggested tuberculosis but the course of the cases confirmed the accuracy of the response. The method is similar to Lignière's technic only that there is no waste of tuberculin; Lignière rubs the skin with a wad of cotton dipped in the tuberculin while Barabaschi does the rubbing with alcohol.

Policlinico, Rome

August 7, XVII, No. 32, pp. 995-1026

105 *Simple Conservative Treatment of Gangrenous Incarcerated Hernia. (Sopra un semplice metodo conservativo nelle necrosi intestinali da strozzamento erniario.) G. Lerda.

106 Pernicious Malaria. (Sulla perniciosita.) G. Baccelli. Commenced in No. 31.

July, Medical Section, No. 7, pp. 285-332

107 Pityriasis Rubra of Tuberculous Origin. (Tubercolosi cutanea eritrodermica desquamativa generale.) P. L. Bosellini.

108 Multiple Calcification of the Subcutaneous Tissue, of Syphilitic Origin. G. Stradiotti. Commenced in No. 6.

July, Surgical Section, No. 7, pp. 289-332

109 Negative Experimental Research on Active Anaphylaxis in Respect to Carcinoma. (Anafilassia attiva e carcinoma.) D. Maragliano.

110 Negative Experimental Research on Passive Anaphylaxis in Carcinoma. (Dell'anafilassi passiva come mezzo di diagnosi dei tumori maligni.) A. Isaja.

111 Experimental Research on Operative Technic for Treatment of Salivary Fistulas. S. Gussio.

112 Importance of Histologic Examination of Metastatic Tumors for Diagnosis of the Primary Cancer. (Tumore a tipo surrenale di sede ignota con metastasi multiple sottocutanee e sottomucose.) E. Brugnatelli.

105. **Conservative Treatment of Gangrenous Incarcerated Hernia.**—Lerda was unable to apply the ordinary technics in a case reported as the patient was too old and decrepit to stand much of an operation and the incarceration of a large femoral hernia was of 4 days' standing. He made a longitudinal incision on the inner side of the hernial sac, and carried the incision upward into the parietal peritoneum in the shape of a Y. The incarcerated bowel showed a ring of necrosis and was adherent to the sac. He then turned up the end of the sac and sutured it to the mesentery above the gangrenous bowel, thus enclosing the latter in a sheath of tissue formed of the hernial sac. The only part of the bowel left unenclosed

was on the side toward the opening in the skin, which was tamponed. Four days later, the gangrenous intestine perforated as anticipated at the point thus left exposed, and fecal matter was voided here as well as by the rectum for a time but the fistula gradually tended towards healing. In a second case in which this technic was applied the fistula healed completely in 25 days.

Riforma Medica, Naples

July 18, XXVI, No. 29, pp. 785-812

113 Demonstration of a Capsule for Certain Bacteria Hitherto Supposed Not to Have Capsules. T. Carpentieri.
114 *Cure of Perforating Ulcer of the Foot by Stretching the Sciatic Nerve. (Contributo alla cura dell'ulcera perforante del piede mediante lo stiramento dello sciatico.) A. Fontana.
115 Two Cases of Primary Melanotic Sarcoma of the Parotid Gland. F. Delaini.

July 25, No. 30, pp. 813-840

116 Study of the Blood with Thyroid Disturbances. (Ricerche ematologiche nelle affezioni della tiroide.) G. Morone.
117 Behavior of the Malta Fever Micrococcus in the Liver and the Biliary Passages. (Comportamento del micrococco melitense nel fegato e nelle vie biliari.) G. Radice.
118 Experimental Research on Influence of Jaundice on Phagocytosis. (Influenza dell'ittero sul potere fagocitario del sangue in alcune infezione.) S. Maggiore.

114. Stretching the Sciatic Nerve in Treatment of Perforating Ulcer of the Foot.—In the first of the 4 cases reported the trophic disturbances had been cured by stretching the plantar nerve, but the ulcer in the foot recurred before the year was out, and this time the sciatic nerve was isolated and stretched. The cure was soon complete and has been permanent during the 2 years since. In the second case the sciatic was stretched to cure coexisting sciatica and it cured at the same time the ulcer on the foot which was evidently secondary to the trouble in the sciatic nerve. The results were equally good in the 2 other cases. His patients were men 25, 49, 60 and 70 years old, and 3 were hard drinkers. The nerve was stretched under morphin-chloroform general anesthesia and the ulcer was curetted and dressed at the same time.

Hospitalstidende, Copenhagen

June 29, LIII, No. 26, pp. 705-800

119 Pathogenesis of Glaucoma. (Overvejelser og Undersøgelser angaaende Glaucomets Pathogenese. Om lymfostat og hemostat Glaucom.) C. F. Heerfordt.
120 Differential Pressure. (Nogle Bemærkninger om Overtryksrespiration.) A. Krogh.

July 6, No. 27, pp. 801-824

121 Treatment of Vulvovaginitis with Gonococcus Vaccine. H. Boas and O. Wulff.

July 13, No. 28, pp. 825-848

122 Traumatic Rupture of the Sclerotic with Hydrophthalmia. N. Hoeg.
123 Negative Tuberculin Skin Test in Hebra's Prurigo. (Prurigo Hebræ's Forhold til Tuberkulose.) H. Boas.

July 27, No. 30, pp. 873-904

124 Research on Causes of Fluctuations in Number of White Corpuscles in the Blood in the Capillaries. (Nogle Undersøgelser over Svingninger i Antallet af hvide Blodlegemer i Kapillærblodet og Aarsagerne til disse.) J. Lindhard. Commenced in No. 29.

Ugeskrift for Læger, Copenhagen

July 28, LXXII, No. 30, pp. 885-928

125 The Hypophysis Cerebri and its Pathologic Importance. P. T. Hald.

August 4, No. 31, pp. 923-948

126 Chemotherapy to Date. H. I. Bing.
127 Advantages of Local Treatment of Superficial Ulcerations with Ethyl Chlorid. (Terapeutiske Notier.) S. Christens.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

I. INFLUENCE OF AGE AND TEMPERATURE ON THE POTENCY OF DIPHTHERIA ANTITOXIN. By John F. Anderson, Director Hygienic Laboratory, U. S. P. H. and M.-H. S. Pp. 9-26. II. AN ORGANISM. (PSEUDOMONAS PROTEA) ISOLATED FROM WATER, AGGLUTINATED BY THE SERUM OF TYPHOID FEVER PATIENTS. By W. H. Frost, Passed Assistant Surgeon, U. S. P. H. and M.-H. S. Pp. 29-76. III. SOME CONSIDERATIONS ON COLORIMETRY, AND A NEW COLORIMETER. By Norman Roberts, Passed Assistant Surgeon, U. S. P. H. and M.-H. S. Pp. 79-93, with illustrations. IV. A GAS GENERATOR, IN FOUR FORMS, FOR LABORATORY AND TECHNICAL USE. By Norman Roberts, Passed Assistant Surgeon, U. S. P. H. and M.-H. S. Pp. 99-110, with illustrations. Hygienic Laboratory, Bull. 66, U. S. P. H. and M.-H. S. Treasury Dept. Paper. Pp. 110, with illustrations. Washington: [Superintendent of Documents] Government Printing Office, 1910.

A TEXT-BOOK OF MENTAL DISEASES. By Eugenio Tanzi, Professor of Psychiatry in the Royal Institute of Higher Studies of Florence. Authorized Translation from the Italian by W. Ford Robertson, M.D., C.M., Pathologist to the Scottish Asylums, Edinburgh, and T. C. MacKenzie, M.D., F.R.C.P., Edin., Medical Superintendent, Inverness District Asylum. Cloth. Price, $7. Pp. 803, with 132 illustrations. New York: Rebman Company, 1910.

THE EXTRA PHARMACOPEIA. Revised by W. Harrison Martindale, Ph.D., F.C.S., and W. Wynn Westcott, M.B., Lond., D.P.H. Fourteenth edition. Morocco. Price, 12 shillings net. Pp. 1054, with supplement, Organic Analysis Chart, by W. Harrison Martindale, Ph.D., Pharmaceutical Chemist, Morocco. Price, 3 shillings 6 pence net. Pp. 80. London: H. K. Lewis, 136 Gower Street, W. C., 1910.

PROCEEDINGS OF THE EXERCISES AND CONFERENCES OF THE NATIONAL ASSOCIATION FOR THE STUDY AND EDUCATION OF EXCEPTIONAL CHILDREN. Inaugurated on the occasion of the Tenth Anniversary of the Groszmann School for Nervous and Atypical Children, April 1, 1910. Waldemar H. Groszmann, Secretary. Plainfield, N. J. Paper. Price, $1.50. Pp. 141. 1910.

CLINICAL COMMENTARIES DEDUCED FROM THE MORPHOLOGY OF THE HUMAN BODY. By Prof. Achille De-Giovanni, Director of the General Medical Clinic, University of Padua. Translated from the second Italian Edition by John Joseph Eyre, M.R.C.P., L.R.C.S.I., D.P.H., Cambridge. Cloth. Price, $4.50. Pp. 436, with illustrations. New York: Rebman Company, 1910.

INVESTIGATIONS ON BENGAL JAIL DIETARIES. By Capt. D. McCay, M.B., B.Ch., B.A.O., I.M.S., Professor of Physiology, Medical College, Calcutta. No. 37, Scientific Memoirs by the Officers of the Medical and Sanitary Departments of the Government of India. Paper. Price, Rs. 2-6-0 or 4s. 3d. Pp. 226. Calcutta: Superintendent Government Printing, India, 1910.

BIER'S TEXT-BOOK OF HYPEREMIA AS APPLIED IN MEDICINE AND SURGERY. By Prof. Dr. August Bier, of Berlin. Only authorized translation from the sixth German revised edition by Dr. Gustavus M. Blech, Professor of Clinical Surgery, Illinois Medical College. Cloth. Price, $4. Pp. 439, with 39 illustrations. New York: Rebman Company, 1910.

THE DISEASES OF WOMEN. A Handbook for Students and Practitioners. By J. Bland-Sutton, F.R.C.S., Eng., Surgeon to the Middlesex Hospital, and Arthur E. Giles, M.D., B.Sc., Lond., F.R.C.S., Edin., Surgeon to the Chelsea Hospital for Woman. Cloth. Price, $3.25. Pp. 554, with 127 illustrations. New York: Rebman Company, 1910.

LECTURES ON COSMETIC TREATMENT. A Manual for Practitioners. By Dr. Edmund Saalfeld, of Berlin. Translated by J. F. Halls Dally, M.A., M.D., Physician to the St. Marylebone General Dispensary. Cloth. Price, $1.75. Pp. 186, with illustrations. New York: Paul B. Hoeber, 69 East Fifty-ninth Street, 1910.

PULMONARY TUBERCULOSIS AND SANATORIUM TREATMENT. A Record of Ten Years' Observation and Work in Open-Air Sanatoria. By C. Muthu, M.D., M.R.C.S., L.R.C.P., Associate of King's College, London. Cloth. Price, $2. Pp. 201, with illustrations. New York: William Wood & Co., 1910.

MARITIME QUARANTINE. By Leland E. Cofer, Assistant Surgeon-General. Public Health Bull. 34, U. S. P. H. and M.-H. S. Treasury Dept. Paper. Pp. 64, with 25 illustrations. Washington: [Superintendent of Documents] Government Printing Office, 1910.

LEHRBUCH DER UROLOGIE, MIT EINSCHLUSS DER MÄNNLICHEN SEXUALERKRANKUNGEN. Von Dr. Leopold Casper, Universitätsprofessor in Berlin. Paper. Price 15 marks. Pp. 575, with 221 illustrations. Berlin: Urban and Schwarzenberg, 1910.

AN INTRODUCTION TO THE STUDY OF HYPNOTISM, EXPERIMENTAL AND THERAPEUTIC. By H. E. Wingfield, M.A., M.D., B.C., Cantab., Consulting Physician, Royal Hants County Hospital. Cloth. Price, $2. Pp. 175. New York: William Wood & Co., 1910.

A PLEA FOR THE HOME TREATMENT AND PREVENTION OF SCARLET FEVER. By Robert Milne, M.D., Ch.M., Medical Officer of Dr. Barnardo's Hospitals and Homes for Thirty Years. Cloth. Price, $1. Pp. 80. New York: William Wood & Co., 1910.

THE SOLUBILITIES OF THE PHARMACOPEIAL ORGANIC ACIDS AND THEIR SALTS. By Atherton Seidell. Bull. 67, Hyg. Lab., U. S. P. H. and M.-H. S. Paper. Pp. 98. Washington: [Superintendent of Documents] Government Printing Office, 1910.

DISLOCATIONS AND JOINT-FRACTURES. By Frederic J. Cotton, A.M., M.D., First Assistant Surgeon to the Boston City Hospital. Cloth. Price, $6 net. Pp. 654, with 1,201 illustrations. Philadelphia and London. W. B. Saunders & Co., 1910.

GENERAL SURGERY. Edited by John B. Murphy, A.M., M.D., LL.D., Professor of Surgery in the Northwestern University. Vol. II. The Practical Medicine Series. Cloth. Pp. 615, with illustrations. Chicago: The Year-Book Publishers, 1910.

THE EAR AND ITS DISEASES. By Albert A. Gray, M.D., Laureate of the Lenval Prize in Otology, International Medical Congress, 1909. Cloth. Price, $4.25. Pp. 388, with 123 illustrations. New York: William Wood & Co., 1910.

DIFFERENTIAL-DIAGNOSTISCHE TABELLEN DER INNEREN KRANKHEITEN. Von J. Ciemach, in Wien. Paper. Pp. 21. Price, 3 marks. Munich: J. F. Lehmans Verlag, 1910.